AMERICAN AGRICULTURIST.

Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. IX. NEW YORK, FEBRUARY, 1850 NO. II.

A. B. ALLEN & R. L. ALLEN, *Editors.* C. M. SAXTON, *Publisher*, 121 *Fulton Street.*

THE

AMERICAN AGRICULTURIST

AND

FARMERS' CABINET.

PUBLISHED ON THE FIRST OF EVERY MONTH

BY

C. M. SAXTON, 121 FULTON STREET, NEW YORK,

JOSIAH TATUM, 50 NORTH FOURTH ST., PHILA,

J. C. BUTTERS, 19 STATE ST., BOSTON.

TERMS.

ONE DOLLAR A YEAR IN ADVANCE.

Three Copies One year, or *One Copy Three Years*..$2.

THE law allows Post Masters to send subscriptions for the American Agriculturist *free of postage.*

NEW SUBSCRIBERS will be furnished with the back numbers *of all or any of the volumes.* Eight volumes now published.

BOUND VOLUMES in complete sets, or in separate volumes, furnished at *One Dollar Twenty-five Cents each.*

ADVERTISEMENTS.—Any advertisement not exceeding 12 lines, $1, for each and every insertion.

☞ All remittances should be forwarded to C. M. Saxton, 121 Fulton street, N. Y.

*** ALL LETTERS, making inquiries, &c., for the benefit of the *writer*, must be *post paid* to receive attention.

ORDERS for change of address, or stoppage, should be *free*, and contain the *name* of the *person* and *post office* to which the paper is now mailed.

POSTAGE.

The following is an extract from the Law of the United States on the subject of Postage as applicable to this periodical:—

"For newspapers of 1,900 square inches or less, sent from the office of publication, not more than 100 miles, or any distance within the same state, *One Cent.* Sent over such distance, *One and a Half Cents.*

CONTENTS OF FEBRUARY NUMBER.

Imported Shorthorns, S. P. Chapman..... 42
Houses for the Poor; Soaking Corn in Saltpetre, James C. Taylor..... 43
Improved Farms in Connecticut, W. E.; The Weeping Cypress; Agricultural Education, No. 1, A. L. Elwyn.. 44
The Japan and Deodar Cedars; What is a Fair Rent for Dairy Cows? A Stranger in America; Farming of Mr. Hancock 45
Agricultural Chemistry, No. 17, J. McKinstry; Saving Manure; Cure for Hydrophobia..... 46
Mowing Machine; Directions for Hatching Chickens..... 47
Dimensions of a Cart to Haul Shocks of corn; Mr. Robinson's Tour, No. 14..... 49
Drilling Wheat; Patent Hoops; Underdraining Meadows with the Subsoil Plow; An Onion from Kossuth's Garden..... 51
Native Grasses; Guano—How should it be Applied? Wire Fence; Sea Marsh Mud..... 52
Who is Reviewer?..... 53
Products from the Mulberry, Daniel Stebbins; Increase of Fertility from Shading the Soil; Feeding Qualities of Pigs; Long and Short Teams..... 54
American Provisions in England; Value of Corn Cobs, A Subscriber; Value of Ashes; Value of Guano..... 55
Chapman, Randall & Co.'s Sugar Mill; The General Government in Favor of Agriculture, at Last..... 56
A Durham Fat Ox; Corn Estimated by the Hill, and not by the Acre..... 57
Benefit of Railroads to Agriculture, Solon Robinson..... 58
Products of Illinois, J. D. S..... 59
Amount of Sundry Articles Imported into the U. S.; Salt, Mixed with Lime and Magnesia; Care of Young Stock, A Long-Island Subscriber; Drilling Grain—Thick and Thin Sowing, Nugator..... 60
Wheat Bran as a Fertiliser; Clover-Sowing Machine..... 61
Wire Fences; Lime and Plaster as Manure; A new Fertiliser 62
Biscayan Mode of Cultivating Asparagus; Profitable Farming; Eating Horse Manure; Georgia Farming, J. B.; Improvement in Sugar Making in the Island of Cuba.. 63
The Castor Bean; Farming in Missouri, Urbane B. Oglesby 64
The Canada Lynx, or Big Grey Wild Cat..... 65
Home-Department Agricultural Report, Daniel Lee; Novel Method of Grafting, Jacob Hewes; Oyster-Shell Lime, Inquirer; Guano..... 66
LADIES' DEPARTMENT.—Chamber Birds, No. 4; Pumpkin Pies; Late Raspberries; To Keep Moths from Woolen Clothes, Carpets, and Furs; Caution..... 67
Foreign Agricultural News..... 68
Editors' Table..... 69
Review of the Market..... 70

IMPORTED SHORTHORNS.

The Bates Stock.—The August number of the Agriculturist, for 1849, contains an article on the "recent importation of shorthorns," which does not entirely coincide with my views. The writer, referring to the bull 3d Duke of Cambridge, which he had recently imported, says: "Breeders, desiring the blood of Mr. Bates, can nowhere else, in this country, procure it *with such high characteristics of style, quality, symmetry, and substance.*"

Allow me here, before discussing this paragraph, to remark, that honorable competition in breeding domestic animals, cannot fail to be a fruitful source of improvement, and should be encouraged by all who desire to see the stock of our country raised to that high standard which its importance so justly merits and demands. The individual, however, who enters upon this enterprise with a desire and a determination to excel, will soon find himself surrounded with perplexities and prejudices which he little anticipated; and however desirous he may be to avoid controversy, circumstances may occur, where justice, both to himself and the public, demands that he should no longer remain silent. Experience will, also, sooner or later, prove that there is neither honor nor profit to be acquired by resorting to the frail support of either directly or indirectly assailing, or endeavoring to disparage the stock of others, by the assumption of high-sounding pretensions, which cannot bear the test of truth and scrutiny.

But to the point. I presume no one will deny, that if any one animal from a herd possesses the power of imparting to his produce "higher characteristics of style, quality, symmetry, and substance," than any other animal from the same herd, it *must* possess more of the *choice* blood of that particular herd. To question this, is at once doubting the efficacy of *blood* animals. The most natural enquiry, therefore, which would arise from a perusal of the sentence quoted above, would be—What is the particular strain of blood in the late Mr. Bates' herd, which is superior to *all others*, and which gave him such a deservedly wide-spread fame and reputation as a breeder? Let this simple fact be clearly defined, and if the 3d Duke of Cambridge possesses more of *such blood* than any other bull in this country, then he may be fairly entitled to his claimed position of superiority. This is a point of the greatest importance to breeders of shorthorns in this country, and *particularly* so to all who "wish to procure the blood of Mr. Bates' herd."

In order, therefore, to prove to the public conclusively, and to place the matter beyond the possibility of a doubt, that the *choicest blood* of Mr. Bates' herd consisted in his *pure, unalloyed Duchess tribe*, I quote his *own opinion*, from a communication addressed to the publishers of the print of his bull Duke of Northumberland. After giving the pedigree of this bull, Mr. Bates says:

"The whole of this family of shorthorns are alone in my possession, having purchased my original cow of this tribe of cattle of the late Charles Colling, Esq., of Ketton, near Darlington, 35 years ago; they had been in the possession of Mr. Charles Colling 20 years. He purchased his original cow from Stanwix, of the agent of the late Duke of Northumberland, and called her Duchess, (which is the reason I have named the bull after that family,) as they are justly entitled to be held in commemoration for having possessed a tribe of cattle, which Mr. C. Colling repeatedly assured me was the best he ever had, or ever saw, and that he never was able to improve upon her, although put to his best bulls. And I have undoubted information from the best authority for saying, that this tribe of shorthorns were in the possession of the ancestors of the present duke for two centuries; and that Sir Hugh Smithson, the grandfather of the present duke, kept up the celebrity of this tribe of cattle by paying the utmost attention to their breeding; and that he used regularly to weigh his cattle and the food they ate, so as to ascertain the improvement made in proportion to the food consumed; a system I adopted nearly fifty years ago, not knowing that it had been previously done; and from a minute and close attention to this subject, I obtained that knowledge of cattle which enabled me to judge of their real merits by their external characters, and which I have never found to fail in my experience for above forty years as a breeder. From that knowledge thus acquired, I selected this tribe of shorthorns as superior to all other cattle, not only as small consumers of food, but as great growers and quick grazers, with the finest quality of beef, and also giving a great quantity of very rich milk. The cow I bought of Mr. C. Colling, in 1804, calved at Halton Castle, Northumberland, June 7th, 1807; she was kept on grass only, in a pasture with nineteen other cows, and made in butter and milk, for some months, above two guineas per week, or 42 shillings in English money."

I have in this extract the opinion of Mr. Bates himself, in regard to the *Duchess* blood, as being "*superior to all other;*" also confirmed by the opinion of Mr. Charles Colling, who said "*It was the best he ever had or ever saw.*" Now, whether this 3d Duke of Cambridge possesses more Duchess blood, or, if you please, has the blood of Mr. Bates' herd with "higher characteristics of style, quality, symmetry, and substance, than any other bull in this country," a brief reference to pedigrees will show.

Pedigree of 3d Duke of Cambridge (5,941). Roan, calved Sept. 14th, 1841; bred by Thomas Bates; got by Duke of Northumberland (1,940); dam Waterloo II., by Belvedere (1,706); grandam by Waterloo (2,816); great grandam by Waterloo (2,816). See English Herd Book, vol. 4, page 614.

By this pedigree, it will be seen that 3d Duke of Cambridge possesses only *one quarter* of Duchess blood—his sire, Duke of Northumberland, (1,940,) being a *half* Duchess bull, and his dam, Waterloo II., *having no Duchess blood in her.*

Among the individuals who have imported stock to this country from the late Mr. Bates' herd, I believe the importations of Mr. George

Vail, of Troy, N. Y., have been the most extensive. In 1840, this gentleman imported direct from Mr. Bates, a bull calf, Duke of Wellington, (American Herd Book 55, or English Herd Book 3,654,) and a heifer, Duchess (American Herd Book, page 172). Pedigree of Duke of Wellington. Roan, bred by Mr. Bates, calved Oct. 24th, 1839; got by Short Tail (2,621); dam, Oxford, premium cow, having obtained the first premium for the best shorthorn cow, open to all England, given by the Royal English Agricultural Society, by Duke of Cleaveland (1,937); grandam, Matchem cow, by Matchem (2,281); great grandam by Young Wynyard (2,859); sometimes called Young Wellington.

By this pedigree, it will be seen that Duke of Wellington was got by a *half* Duchess bull, Short Tail. So far, then, his *equality* with 3d Duke of Cambridge as to Duchess blood is established. But if we examine a little further into this pedigree, we shall find that Wellington's *dam* was also got by a *half* Duchess bull, Duke of Cleaveland (1,937); consequently, the *produce* of Wellington, from a cow *without Duchess blood*, would possess nearly as much Duchess blood as 3d Duke of Cambridge himself. For the purpose of further comparison, I insert, in part, the pedigree of Mr. Vail's Duchess.

White, bred by Mr. Bates, calved, &c.; got by Duke of Northumberland, out of Nonsuch II., by Belvedere (1,706); grandam, Nonsuch, by Magnet (2,240); &c. See American Herd Book, page 172.

Mr. Vail's prize bull Meteor, (104,) was out of this heifer, and his sire is Duke of Wellington. He has therefore *three* crosses of the Duchess blood; so also have the bulls Mr. Vail has sold to Col. Sherwood, of Auburn, Col. Hampton, of South Carolina, Messrs. Ferguson and Wetenhall, of Canada West, and Thomas Hillhouse, of Watervliet, N. Y.; and another bull yet in his possession—American Comet, I believe. I might continue this account, as Mr. Vail has three more imported cows, sent him by Mr. Bates, *all* of which possess strains of the Duchess blood, but I deem it unnecessary.

I learn, through the agricultural papers, that the *whole* of the late Mr. Bates' herd are to be sold the coming spring or summer; and consequently the Duchess family, which Mr. Bates has always retained *exclusively in his possession*, will be dispersed into the hands of many. From the enterprise which has thus far characterised Mr. Vail, as a breeder, I sincerely hope and expect he will not let this opportunity pass without the introduction of one or more animals of the *full Duchess blood* into his herd. He has already done much to bring this Duchess blood into deserved reputation in this country; and the benefit which its introduction has conferred upon other Durhams, which have received only a single cross of this strain of blood, is immense. I hope he will now introduce it *without alloy;* and I confidently expect the day will not be far distant, when the price of American shorthorns will compare favorably with the high sales of this stock in England. S. P. CHAPMAN.

Clockville, Madison Co., N. Y., Dec., 1849.

HOUSES FOR THE POOR.

AN announcement has recently been made of a projected plan for cottages for working men, some 15 miles from this city. The Harlem Railroad, we are informed, will run a train at very low prices to the city, at such hours as will suit laborers, going to or returning from their work; and the enterprise is led by those who will undoubtedly carry it through. It is to be hoped that in laying their plans for what must eventually be a large town, the projectors will not forget squares and front courts. Every street should form one side of a square, which, planted with trees, would prove an invaluable source of moral and physical health to the children of the poor. If the houses could be set back from the street sufficient to allow a small grass plot, it would be better still. But we think the squares essential, and we think no one can be *well*, neither morally nor physically, unless he has plenty of fresh, wholesome air. Unless arrangements for these squares are made now, in such a way that they can never be built upon, the want of good air will be as much felt in the new town, in the course of time, as it is at present in the most densely populated parts of New-York city.

The laboring classes, as we understand, are to have the opportunity of buying these small lots and tenements at moderate prices. After the town has been built up and thus occupied, land in its midst will necessarily be greatly enhanced in value. The temptation will be irresistible to the poor man to sell part of his front or the whole of his rear, to be occupied by buildings. In this way, instead of one house upon a lot, there may be a dozen; and then the air will be vitiated by the number of human beings crowded into a small space.

If, however, there should be left for their breathing, a great number of cubic feet of air in the shape of squares, this evil would be avoided, and the children having also plenty of room for play and for the development of their muscles, would grow up healthy and robust, with a fondness for trees, grass, and fresh air, with their purifying influences, which would adhere to them through life. Thus reared and educated, they could not fail to make more useful citizens and better and more enlightened men.

SOAKING CORN IN SALTPETRE.

I HAD the benefit of soaking corn in saltpetre, to plant, well tested this year, on a small piece of ground, planted late. I had not enough soaked to plant all the piece. Where it was not soaked, the blackbirds pulled out about one third; where it was soaked, they seldom touched a hill. But what was most peculiar, there happened to be one row planted with dry corn, between two rows that were soaked; of the dry, they took several hills clean, and, altogether, about one third of the row; while they did not take more than one hill of the two saltpetre rows. JAMES C. TAYLOR.

Atlantic, N. J., Dec., 1849.

IMPROVED FARMS IN CONNECTICUT.

Reading the account of your correspondent's tour through Connecticut, reminded me of a very pleasant tour I had, the past summer, in visiting Fairfield county, and witnessing the improvements that have been made in a few years, in farms, out houses, barns, &c.

The farms in the town of Norwalk have been improved very much in three years, especially those of Messrs. L. O. Wilson, T. Cook Hanford, Charles Mallory, and L. M. Stevens. Others are deserving of notice, but very few are more productive than those I have mentioned. In regard to barns and out houses, the three, first named, have all good and spacious buildings. Mr. Stevens built his barn the past summer, and it is of great capacity, being 72 by 40 ft. The interior arrangements are very complete, and the barn is well built; and, what is more, well filled. Another barn in the west part of the town deserves notice; but of the farm I cannot say much, as I know but little of it. This barn is owned by Mr. D. R. Selleck, a young man of your city; and although not so large as the one mentioned above, is one of the best built and arranged I ever saw. It is situated on a side hill, and has a cellar underneath, of the full size of the barn. This is used for stables, storage, &c. I understand the barn was built by Wm. Thomas Craw, a young mechanic of that town, who stands at the head of his profession. This building is also well filled with hay and grain, the products of his farm, which has been brought to a good state of cultivation, by the use of compost, made of muck out of his pond, where there is at least 1,000 loads, a portion of which is transferred to his land every year. All are using more or less artificial manures, and are receiving benefits from them. W. E.

THE WEEPING CYPRESS.

This splendid tree has been recently introduced into England from the East. Imagine an evergreen weeping willow, with compact habit and close, feathering foliage, like the little cypress vine, and you will have some conception of the beauty of this tree as we have seen it described. If our little plant, of four inches, which has just reached us, at a cost of some ten dollars, ever makes itself into a tree, we can perhaps describe it better from personal knowledge. There can be little doubt, however, that it will prove one of the greatest acquisitions to our list of hardy evergreens.

AGRICULTURAL EDUCATION.—No. 1.

There seems a disposition in many parts of the country to agitate this subject; a state of feeling that shows very clearly two things—a marked and decided interest in agriculture as an art, and a rising and increasing power among farmers as a class. I am inclined to think, however, that the term is a bad one. Agricultural education means, that training which fits men for the practice of agriculture, in the same way as we say a medical education, or a legal, as implying a training for either of the professions of medicine or law. But, as I understand those who come forward in this important matter, they mean something more than a mere instruction in the practical part of agriculture, and design and desire such instruction as will prepare those who make agriculture the business of their lives, for the social, political, and moral position which belongs to the dignity of their occupation, and attaches to them as the great, controlling force of their country. This is something more than an agricultural education, and the term should be changed to that of "Education for Farmers."

Now, what does this mean? Does it mean that farmers are a peculiar class, and require something more or something less than the rest of their fellow citizens, to make them valuable members of this republic? Perhaps there are very few who will think that they require a higher discipline than any other portion of the country; but I have no hesitation in saying, and it is dictated by both head and heart, that they require, positively and necessarily, a higher order of mental and moral training than any other class of men. And why? Simply, because they wield the whole moral strength of this republic. They shape its destinies, they create its character, and they control its conduct. They are, too, its court of last appeal, when misfortune or ruin hangs over it. Holding this important rank, who can doubt or deny that they should receive an education that fits them for its duties? But how are they to get it? Here we meet the difficulty that all must encounter, who wish to improve the intellectual condition of the farmer.

Our colleges are too expensive, and so are all those institutions that are much above the common schools of the country; and it is very possible that very few would suppose a collegiate course necessary, or even fit, for a working man. It is certain that they are neither necessary nor fit; but without them, we are thrown back on the common country schools, as the sole means of instructing this large and important body. Granting this, it is very clear that no mode at present exists of giving them increased knowledge, but by giving more efficiency to these schools; and this does not involve a question of propriety, nor even necessity, but of power; or, in other words, Have the larger number of states, as yet, the monied wealth on which to draw, to pay the increased expense that must come with the requiring teachers of high attainments, and all the apparatus with which they are to act? With the exception, perhaps, of Massachusetts, there is no state altogether willing nor able to adopt so expensive an education as a general system. There is, therefore, nothing to be done at present but to make use of such means as are within our reach.

But there is another question to be considered, which has never yet been fully examined. It is the simple one, What is education? People, in general, assume it to mean a certain amount of intellectual attainment—of arithmetic, mathematics, or classics. This seems a great and serious error, as it appears to lose sight of by far the highest and most important part of education—its moral training. It should never be forgotten that it is the principles which are

planted in the mind, which are of infinitely more importance to the individual and to society, than all the culture of the intellect which can be imparted, or which the strongest mind can attain. A man may be a great scholar, a mathematician, or full of learning and genius in all their most wonderful degrees; but if the question—Is he an honest or good man? cannot be answered in the affirmative, of what avail are they all? A man is not to be measured by his capacity for mischief, nor respected for the loftiest intellectual gifts, if they are perverted to the wrong and ruin of his fellow creatures. There seems, fortunately, in the human character, a power of rejecting what is bad. Men may be dazzled and facinated by the brilliant efforts of great powers; but they learn after a time to regard them as the glare of a volcano, and look around, when the feeling of admiration has passed away, with horror on the waste and desolation they have left.

There is evidently, then, a craving for moral attainment in the human heart, as strong, or stronger, than for the intellectual in the human mind. It may not be so keen and active, and it may be overcome by the passions; but in the end it counterbalances the bad effects, and all the dangerous influences a perverted but brilliant mind may have wrought. Instead of looking merely to the accomplishing of the mind, we must, besides this, bend every effort to the cultivation of the moral sentiments.

A. L. Elwyn.

Philadelphia, January, 1850.

THE JAPAN CEDAR.

The severity of our winters, in this country, deprives us very much of the various beautiful evergreens which grace the parks and gardens of Europe, and form these beautiful appendages to a winter landscape. With the exception of the euonymus cotoneaster, and a few other shrubs, our hardy evergreens are mostly coniferous, and among these there are few more beautiful than the Japan cedar.

Although noticed by Professor Thunberg as early as the year 1784, it has been introduced into England and this country only within a few years. It is found on the mountains of Nagasaki, in Japan, and its soft wood is much used by the Japanese for cabinet work. It was also found by Fortune about Shanghae, in the north of China, where it had probably been introduced from Japan. In Shanghae, it is perfectly hardy, with the thermometer at five degrees above zero, and it has endured the winter in the vicinity of Boston. In its native habitat, it grows to the height of 60 to 100 ft., with a pyramid-shaped head, and rather erect or horizontal branches. Its leaves are stiff and close upon the branches, which latter are not very numerous. For rapidity of growth, no evergreen can compare with it; and its graceful, as well as unique appearance, render it very desirable to every lover of fine trees. Beautiful as it is, however, we have not yet seen any specimen that quite equals the Cedrus deodara.

THE DEODAR CEDAR.

This tree is now becoming quite abundant, and is beginning to be widely disseminated. We have a specimen on our lawn some 8 or 10 ft. high, which we deem the most beautiful coniferous evergreen we have seen. Its form is something like that of the Norway spruce, but in habit and character totally dissimilar. Its foliage is of a bluish tint, and its young branches have a graceful, drooping character, that often reminds one of a fountain in full play. In fact, it would form an unrivalled back ground for a fountain, the white spray of which would be finely relieved against the dark, bluish-green of its foliage. It has another peculiarity which enhances its value. Unlike other coniferous trees, which frequently become rusty the latter part of the summer, it continues to grow until cold weather; and there being thus always an abundant supply of succulent wood, it retains a fresh, lively green until ice makes its appearance. For single specimens for screens, or for masses, it is a most valuable tree; but in all its beauty, it bids fair to be surpassed by the weeping cypress.

WHAT IS A FAIR RENT FOR DAIRY COWS?

What is a fair average number of pounds of butter per annum to be expected from a common lot of dairy cows in this country?

A proprietor of land, in Orange county, proposes to rent me his farm next spring, with fifty cows, for which I should engage to give him a certain number of pounds of butter per head. Can you inform me what is a fair rent? I am satisfied with the terms of giving one third of the crop for rent, but fear to accept his terms for the cows. A Stranger in America.

The average annual yield of pounds of butter per cow, is a very uncertain matter. We doubt whether it exceeds one hundred pounds per cow in Orange county; though we believe that two firkins, (160 lbs.,) is considered a fair average. We know one lot of ten cows that average three firkins each, equal to 480 lbs. per annum. We believe the most usual rent is one firkin for each cow. We saw a lot of fifty excellent cows, the other day, for which the farmer gives the proprietor a rent of 67 lbs. each per annum. In this instance, the farm is very productive for grass, and the dairy conveniences of the best kind. When this is not the case, the lessee cannot afford to pay so high a rent.

FARMING OF MR. HANCOCK.

Guano—How Applied.—Thomas Hancock, of Burlington, N. J., makes his guano all fine by riddling and pounding lumps, and then sows from 300 to 400 lbs. per acre upon wheat land, in September, and immediately harrows it in. Then he spreads six to twelve loads of manure to the acre, and plows it in lightly, and harrows the ground to level it, and then drills in wheat, five pecks to the acre, about the 15th of October. This ripens about the first of July, and the average yield for five years, has been

twenty bushels to the acre. The largest crop, thirty-seven and a half bushels.

Sowing Grass Seed.—This he does in the fall, or spring, upon the growing wheat, at the rate of five quarts each of Timothy and clover to the acre. Continue in grass four or five years, and then corn, potatoes, peas, and wheat.

Average Crops of Corn, for five years, 35 bushels; oats, 50 bushels; potatoes, 100 bushels through the county, and 200 bushels of sweet potatoes.

He Uses Manure for Potatoes, peas, and wheat, but not for corn. He spreads 50 bushels of unslacked lime on the acre, in April or May, upon corn land, either before or after planting, as convenient. He turns clover, Timothy, and orchard-grass sod six or eight inches deep in the fall, and harrows or plows two light furrows together, to plant corn. His soil is a sandy loam, made rich by lime and manure, and a regular rotation of crops.

AGRICULTURAL CHEMISTRY.—No. 17.

WHAT I have already said concerning the composition of farmyard manure and its decomposition, will lead you to infer that one portion must descend, and another ascend, while undergoing this last process. If it be plowed under the surface, the saline portions will be dissolved by the action of rains, while the gaseous portions will ascend, and either be absorbed by the earth above, or rise into the air. This last result must ensue when the manure is spread upon the surface, so that, in this case, little benefit can be obtained from its ammonia or carbon; as these, (with the exception of such portion as may chance to be washed into the earth with rain,) will pass into the air and be lost.

But in loose, porous soils, the saline parts may descend with the water in which they are dissolved, to such a depth as to be below the reach of the roots of plants. It is, however, contended by some eminent agriculturists, that the tendency of even these portions is upwards, and that the surface will be enriched by them when they lie buried several feet beneath. As there are some very respectable advocates for this theory, who bring facts and experiments from their own observation and experience, to confirm their position, I do not feel at liberty to say it is not so; for it is possible that the salts, after being dissolved, may rise on the principle of capillary attraction; though it is quite probable that, in the experiments which have been made on this point, the gases have acted a more important part than they have received credit for. The question is an important one, and it is to be hoped that it may be soon satisfactorily decided.

But even if the theory of the ascension of manures be incorrect, it does not follow that it is more advantageous to apply it on the surface than to plow it under; as in the former case, it must be continually giving to the air those gases which act as valuable fertilizers when present in the soil.

There is still much to be learned in the science of agriculture, as well as much that ought to be *unlearned*, in the present mode of practice. No one, therefore, need be deterred from experimenting and investigating by the thought that there are no new discoveries to be made, nor no new principles to be established. I have no doubt the time will come, when an acre will be made to produce twice as much as it now does, without any more labor or expense in cultivating than is now bestowed upon it—a result which will be brought about by the superior management of a more enlightened age.

Trusting that what I have already written will suffice as an introduction to the study of agricultural chemistry, and serve to remove the first and most formidable difficulty which the student has to encounter in mastering technicalities, I will now close my series of letters. To those who desire to pursue the subject further, I would recommend the reading, or rather *study*, of Johnston's Agricultural Chemistry, a work replete with the most valuable practical instruction.

J. MCKINSTRY.

Greenport, Columbia Co., N. Y.

SAVING MANURE.

A Southern Example, worthy of Northern Imitation.—My friend Mr. Keeling, who keeps that excellent house at Norfolk, the National Hotel, has lately bought a farm near town, which he is determined to enrich, and this is one of the methods he has taken. He has all the ashes from the hotel, which are made from bituminous coal, put into a pit, and upon this all the urine, soap suds, and dish water is thrown as long as it will absorb it, and the mass is then hauled out and spread upon the land.

In the privy vault, he has a layer of soil spread every week, to which is added a sprinkling of plaster and dissolved copperas, sufficient to absorb all the ammonia. After a time, that is all taken out and spread upon the land, without its being at all offensive to handle. Every dead animal that comes within his reach is buried in a pile of weeds, straw, trash, earth, or swamp muck, to fertilise the mass, and in its turn, fertilise the soil. He has lately planted 3,000 bushels of oysters, for the use of the hotel, the shells of which, bye and bye, will be burnt, and spread upon the land. He is also preparing to grind plaster, which is brought here as ballast, and can be had for seventy-five cents to a dollar a ton. And with these appliances he is determined to raise grass, notwithstanding the unfashionableness of that crop in all the south.

Now, this gentleman is not a practical farmer, but derives his ideas from reading, reflection, and common sense; and I leave it to any one possessed of a small share of this latter commodity, to say if his ideas are not of a more common-sense character than many farmers have, who call themselves wholly practical.

CURE FOR HYDROPHOBIA.—M. Rochet d'Hericourt, a French traveller in Abyssinia, found a plant there, which is said to be effectual in curing this fatal disease. While there, he saw it administered to a soldier and three dogs laboring under

hydrophobia, and it cured them. The plant grows in the low, warm, and sandy loams of that country.

MOWING MACHINE.

We know of no machine more likely to ensure a fortune to its inventor, than a perfect mowing machine. One was invented and put into operation by Mr. Ketchum, of Buffalo, some two years since, which did not at first work well, but which, we understood, with a subsequent improvement, received the approval of several intelligent and practical men at the state fair a year since.

We have had numerous inquiries for a mowing machine, and have referred to this as the only one within our knowledge; and yet this does not seem to be working into favor nor use. Will not some of our ingenious mechanics undertake this subject and invent one?

Messrs. Hussey and McCormick, both inventors of successful reaping machines, claim the applicability of their reapers to mowing. Let them or any person demonstrate the practicability of mowing economically and rapidly by machinery, and we will guarantee the sale of hundreds annually, at fair prices.

DIRECTIONS FOR HATCHING CHICKENS.

The following extract from Browne's "American Poultry Yard," lately published by C. M. Saxton, we trust will be acceptable to our readers, particularly as the season for hatching chickens is close at hand:—

A hen prompted by instinct to the task of incubation, asks only for eggs suited to her size, be they those of her own production or not, (those even of a duck will be accepted,) a nest, and undisturbed solitude. At this juncture, she utturs an instinctive cluck, ruffles her feathers, wanders about, searches obscure corners and recesses, and is evidently ill at ease. She is feverishly hot, impatient, and anxiously restless. In high-fed hens, this instinctive desire comes on sooner than in such as are not supplied with food in abundance, and it may be induced by stimulating diet, a little raw liver or fresh meat, chopped small, potatoes mashed warm, with milk and Indian meal. Some farmers recommend a fomentation of vinegar in which pepper has been steeped, to be applied to the under parts, as a means of inducing this desire; and others even advise that some of the feathers of the abdomen be plucked off, and the skin stung with nettles! Such means may induce fever, and a desire to cool the inflamed skin by applying it to cool substances, but not a genuine natural impulse to fulfil the great law of nature. Let them never be put into practice. They are barbarous and contemptible. By high feeding, some hens, especially of the Dorking breed, which, as sitters, take the pre-eminence over all other breeds, may be induced to sit in October, especially if they have moulted early. Advantage may be taken of this circumstance, at the south, and chickens may be obtained fit for the table by Christmas—not, however, without great care and trouble. The incubation must take place, and the chickens be reared and fed, in a warm room, if necessary, kept at an equal temperature. Generally speaking, spring chickens are more desirable, which should be hatched in January, so as to be ready for the market in the latter part of March, and through the months of April, May, and June. They require great care, but they return an ample profit.

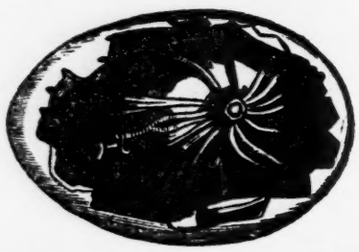
The most usual time in which hens manifest a desire to incubate, extends from March to May or June, and at this season chickens may be reared without any extraordinary precautions.

When the determination to sit becomes fixed, —there is no need to indulge the first faint indications immediately—let her have the nest she has selected well cleaned and filled with fresh straw. The number of eggs to be given to her will depend upon the season, and upon their and her own size. The wisest plan is not to be too greedy. The number of chickens hatched is often in inverse proportion to the number of eggs sat. I have known only three to be obtained from eighteen. Hens will, in general, well cover from eleven to thirteen eggs laid by themselves. A Bantam may be trusted with about half a dozen eggs of a large breed, such as the Spanish. A hen of the largest size, as a Dorking, will successfully hatch, at the most, five goose eggs. But if a hen is really determined to sit, it is useless, as well as cruel, to attempt to divert her from her object. The means usually prescribed are such as no humane person would willingly put in practice. If the season is too early to give a hope of rearing gallinaceous birds, the eggs of ducks or geese may generally be had; and the young may be brought up with a little pains-taking, as well as by their natural parent. And if it be required to retain the services of a hen for expected valuable eggs, she may be beguiled for a week or ten days with four or five old addled ones till the choicer sort arrive.

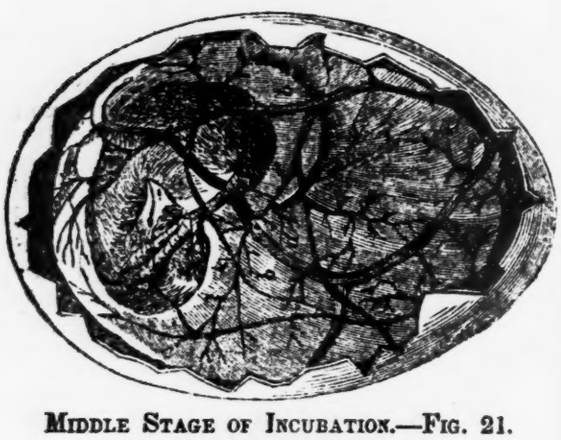
Three weeks is the period of incubation of the common hen. Sometimes, however, when she does not sit close for the first day or two, or in early spring, it will be some hours longer; more frequently in our southern climate, when the hen is assiduous and the weather hot, the time will be a trifle shorter. But in cases of artificial incubation where the eggs are uniformly kept at a temperature of from 101° to 102° F., the period is sometimes hastened forty-eight hours. The range of temperature, within which the eggs will hatch, varies from 95° to 106° F. Towards the close of incubation, the process may be suspended for one or two hours, or even for a longer period, according to the degree of extraneous heat which the eggs may derive from their situation, without fatal consequences to the embryo chick.

The growth of the chick in the egg has been so fully and so well described by many writers, from Aristotle down to Réaumur, that I need merely refer the reader to them. The observations of the latter, particularly, have appeared in almost every compilation that has been published on the subject; and I think it much better

taste for common inquirers to betake themselves to such sources of information, illustrated as they are by good engravings, than to desire that a set of half-hatched eggs should be broken to gratify their curiosity. A shattered and imperfectly-formed chick, struggling in vain in the fluid that ought to perfect its frame, till it sinks in a gradual and convulsive death, is a horrible spectacle, though on a small scale. To gratify the curious reader, I present below three cuts illustrating the first, middle, and last stages of incubation.



First Stage of Incubation.—Fig. 20.



Middle Stage of Incubation.—Fig. 21.

Chick just before Hatching.—Fig. 22.

Shortly before the time of hatching arrives, the chickens may be heard to chirp and tap against the walls of their shell. Soon a slight fracture is perceived towards the upper end, caused by force from within. The fracture is continued around the top of the egg, which then opens like a lid, and the little bird struggles into daylight. The tapping which is heard, and which opens the prison doors, is caused by the bill of the included chick; the mother has nothing to do with its liberation, beyond casting the empty shells out of the nest. At the tip of the bill of every new-hatched chick, on the upper surface, a whitish scale will be observed, about the size of a pin's head, but much harder than the bill itself. Had the beak been tipped with iron to force the shell open, it would not have been a stronger proof of Creative Design than is this minute speck, which acts as so necessary an instrument. In a few days after birth, when it is no longer wanted, it has disappeared; not by falling off, which would be waste of valuable material, but by being absorbed and becoming serviceable in strengthening the bony structure, minute as the portion of earthy substance is. And yet some people direct, that as soon as the chick is hatched, this scale should be forced off with the finger nail, because it is injurious!

All chicks do not get out so easily, but may require a little assistance. The difficulty is, to know when to give it. They often succeed in making the first breach, but appear unable to batter down their dungeon walls any further. A rash attempt to help them by breaking the shell particularly in a downward direction towards the smaller end, is often followed by a loss of blood, which can ill be spared. It is better to wait awhile and not interfere with any of them, till it is apparent that a part of the brood has been hatched some time, say twelve hours, and that the rest cannot succeed in making their appearance. After such wise delay, it will generally be found that the whole fluid contents of the egg, yolk and all, are taken up into the body of the chick, and that weakness alone has prevented its forcing itself out. The causes of such weakness are various; sometimes insufficient warmth from the hen having sat on too many eggs; sometimes the original feebleness of the vital spark included in the egg, but most frequently staleness of the eggs employed for incubation. The chances of rearing such chicks are small, but if they get over the first twenty-four hours they may be considered as safe. But all the old wives' nostrums to recover them are to be discarded; the merest drop of ale may be a useful stimulant, but an intoxicated chick is as liable to sprawl about and have the breath trodden out of its body as a fainting one. Pepper corns, gin, rue, and fifty other ways of doctoring, are to be banished afar.

The only thing to be done, is to take the chicks from the hen till she is nestled at night, keeping them in the meanwhile as snug and warm as possible. If a clever, kind, gentle-handed little girl could get a crumb of bread down their throats, it would do no harm. Animal heat will be their greatest restorative. At night, let them be quietly slipped under their mother; the next morning they will be either as brisk as the rest, or as "flat as pancakes."

Now I am on the subject of hatching, I may as well refer to the perplexity to which poultry keepers are sometimes subjected, when hens *will* sit, at seasons of the year at which there is little chance of bringing up chickens. Some advise the hens to be soaked in a pail of water, cold from the pump; but if they have a mind to kill her, it is more cruel to do so by giving her fever and inflammation of the lungs, than by simply knocking her on the head. A less objectionable remedy, is the following:—"I have known one or two doses of jalap relieve them entirly from

a desire to sit; and in my opinion it is far better than the cold-water cure. I have known English fowls lay in three weeks afterwards."* But why not let the poor creatures obey their natural propensity? Or, surely, some neighbor would gladly exchange a laying hen for one that wanted to sit. Others, borrowing an ancient piece of barbarism, recommend a large feather to be thrust through the nostrils; that she may rush here and there in terror, and give up all thoughts of sitting. The wisest way is to guide, instead of thwarting the impulse of nature. Let your good hen indulge the instinct implanted in her by a Wiser Being than you; give her a sitting of duck's eggs, and unless the winter or spring be extraordinary severe, you must be a bungler if you do not rear them by the aid of bread crumbs, Indian meal, and a kitchen fire.

* Dixon.

DIMENSIONS OF A CART TO HAUL SHOCKS OF CORN.

One of the best labor-saving implements that we know of, is only in use upon a few New-Jersey farms. It is very simple in its construction and effective in its operation. A large shock of corn can be picked up with it by a boy a dozen years old, and carted a mile and set down again, just as it stood in the field. It is, perhaps, most useful in hauling off corn from ground which is to be sown in wheat; though two men and two carts of this kind, will bring corn a mile to the barn, faster than with a wagon; and then the shocks may be set down compactly in the yard until wanted to husk the corn. It certainly saves a great deal of hard work in handling this heavy crop.

When intended thus to be hauled, it should be put up in very large shocks—say half a wagon load each. The driver backs up to the shock, tips up his frame against it, throws the rope around, and attaches the loose end to the windlass and winds up. In this way, the shock is lifted and laid upon its side on the cart. When he arrives at the place, to unload, he loosens the ratchet that holds the windlass, and the shock falls by its own weight back upon the butts, into its original position, with very little assistance. Now, to enable any carpenter to make such a machine, we will give the most approved dimensions.

Take any pair of stout, low wheels—the lower the better—and put in an axle 6 ft. between the hubs. Length of the shafts, 12 ft. 8 in. Under the shafts, two feet forward of the axle, hang a windlass, 6 in. in diameter, upon iron bearings, about 5 ft. 2 in. long, it being 4 ft. 2 in. between the shafts. The head of the windlass, on the near side, has mortices for a lever, and should have an iron ring on the end to prevent splitting. It must have a ratchet wheel and catch, to hold as it is wound up. Now make a frame of oak timber 3 or 4 in. square, 4 ft. 10 in. long, and 5 ft. 3 in. wide, behind, and 4 ft. 8 in., forward, having a cross piece forward and behind, and over the axle, and a roller over the windlass. Hinge this frame to the axle, 1 ft. 8 in. from the hind end. Frame two pieces, 4 ft. long, in the cross piece over the axle, to slant out over each wheel, supported by uprights in the side of the frame. Attach a stout rope, 36 ft. long, by one end to the windlass; the other passes round the shock, and then loops over a pin in the windlass, and draws over the roller in the frame as it winds up.

MR. ROBINSON'S TOUR.—No. 14.

Swamp Draining.—This has been done by Governor Hammond, of Silver Bluff, South Carolina, to a greater extent than by any other person of my acquaintance. When I visited his place, in April last, he had about 600 acres in cotton, upon land that three years ago was almost impenetrable swamp; full of timber, living and dead, and matted together by running vines, with a soil five or six feet deep, but so soft, that, even after it was cleared of timber, a horse could not walk over it, nor until some time after it had been thoroughly drained. In fact, one of the swamps, (there are three different tracts drained,) was covered with 2 to 4 feet of water, constituting what is known as a "cypress pond." These swamps are basins, or natural depressions in the upland, which is here all composed of a light, sandy soil, interspersed with swamps, which heretofore have never been successfully cultivated, although everywhere abounding in the south, and possessing the same general characteristics as these upon Governor Hammond's land.

He first commenced with a tract containing 170 acres. Being one of the most practical of men himself, he avoided a very common course among southern gentlemen, who act altogether too much upon the principle that sometimes induces sporting men to "go it blind;" and therefore his first operation was to make a careful survey and estimate of cost, with the quantity of land to be reclaimed, and its estimated value, and then make a diagram, showing all the lines of leading ditches, to serve as a complete guide for the overseer in prosecuting the work; for here, everything is done under the direction of the proprietor.

It was found, on examination, that to have the outlet upon his own premises, required a ditch a mile and three fourths long, and from 5 to 13 feet deep. This being done, it took off a portion of the water so that hands could commence clearing off the timber and bushes, which proved to be a heavy job, as the ground was still so wet that the bushes would not dry sufficiently to burn, and had all to be piled upon fires previously kindled with light wood. In the meantime, ditches were cut five feet deep through the centre, and all around the edges, and in every other direction where springs showed their waters; as that depth was found necessary in all cases to cut them off, while the intermediate space was checkered with smaller ditches, usually three and a half feet deep, to take off all the surface water, and insure at least three feet of dry soil. As the swamp would not sustain a horse, or mule, it had, and still has, to be cultivated entirely

with hoes; but notwithstanding the cost of reclaiming and the trouble of tilling, the first crop was such as to promise remuneration, and induced Governor Hammond at once to undertake another swamp of 300 acres, of the same character as the first. The growth of timber was sweet gum, tupelo gum, red bay, poplar, short-leaved pine, and some others; the soil entirely vegetable muck, lying upon sand. The third swamp was the cypress pond before-mentioned, and exceeds any piece of land I ever saw for quantity of stumps. This also required an outlet ditch upwards of a mile in length, part of which is 20 ft. deep. How this is to be kept from caving and filling up, is more than I know. To drain the three swamps, in all 600 acres, has required near *forty miles of ditching*, counting nothing less than three and a half feet deep, and has cost five dollars an acre, the clearing $25, and marling $10. This last operation, Governor Hammond has gone into most extensively, upon nearly all of his land in cultivation, having used 400,000 bushels, at the rate of 200 bushels per acre. It is boated thirteen miles up the Savannah River, from Shell Bluff, and then hauled from one to three miles out upon the land. The marl is composed of ancient sea shells, among which are now to be seen perfect oyster shells, of a mammoth size. The effects of marling the upland were very stimulating at first, but not permanent, for the very reason that so many others fail in the use of calcareous manure; and that is, neglecting to give vegetable matter for the lime to act upon. Upon the swamp land, it will be very different, for there the soil is a complete mass of roots and decayed leaves, from 2 to 12 ft. deep; and upon the part longest in cultivation, the benefit of the marl is still very great. And what was at first a quagmire, is becoming so solid that I rode over it without difficulty.

Last year, a fair crop from one acre was weighed, and gave 1,788 lbs. of seed cotton, notwithstanding much of it was blown out and wasted by a storm. Much of the ground, too, was occupied by roots and stumps.

It is found necessary to keep one hand all the time in each field, going through all the ditches, to clear out obstructions; as the banks, until they acquire a sufficient slope, will continue to slide in and stop the water from flowing free.

The manner of estimating the cost of the improvement, has been by keeping an accurate account of all the labor, and then calculating by the rule of former years, how much cotton could have been made by the same labor, and the value of it, and this being charged against the ditching and clearing, gives the amount stated as the cost per acre. Governor Hammond counts now $15,000 outlay for ditching and clearing, and $5,000 for marling, for which he has not yet received any returns. But so sanguine is he of success, that he has lately purchased 900 acres more of swamp, which he intends next to commence upon. He owns some 10,000 acres of land, 3,000 of which is under cultivation. A great portion of the balance is piney-woods sand, and of very little value for tillage.

His crop of last season was 1,100 acres of corn, which averages 10 to 15 bushels per acre, and 650 acres of cotton, 570 of which was swamp, and cultivated entirely with hoes. The balance of the land is "resting;" a term peculiar to the south, and does not mean that it is covered with a luxuriant crop of clover or grass, by which the soil of northern farms is renovated, when it needs rest from long-continued tillage crops. "Resting" is the only renovating process known to most of the planters. Gov. H. thinks that a crop of weeds is highly beneficial to the land. I think if it were *shaded* with a coat of straw, it would be better.

Governor H. plants cotton in drills, 4 to 5 feet apart, and stalks 15 inches apart in the drills. This, at an average of 30 bolls to a stalk, will give 1,800 lbs. to an acre. He says that he has seen 700 bolls and forms upon one stalk; and that it made 4 lbs. of cotton. It grew upon a dung heap. This is pretty conclusive proof that it would be profitable to grow the whole crop upon a dung hill.

Corn is planted 3 by 4 ft. apart, one stalk in a square only, being allowed to stand. The average crop in the district does not exceed ten bushels per acre, and probably not over eight. Upon upland, ten bushels is considered a good crop. The average crop of cotton is about 400 lbs. per acre. A common hand tends ten acres of corn and ten acres of cotton, upon the light lands of this part of the state.

It was in consequence of having worked this kind of land until it would no longer produce remunerating crops, that induced Governor H. to try what he could make out of the swamp lands. In speaking of renovating light land with peas, he says that he has found more benefit from letting the vines decay upon the surface, than he has in turning under green vines. He has one field that has been cultivated upwards of 100 years. This is upon the bank of the river. The "old, brick house," memento of the Revolutionary War, stands in this field, and which has been preserved with so much care, is now about to yield to old age and crumble into a shapeless mass of brick and mortar.

There is one thing about the work upon this plantation, that might be imitated to advantage upon some others; and that is, a personal superintendence of the owner, and the use of good tools. The No. 15 plow is the one most preferred. He has some very good Ayreshire cattle, which show to excellent advantage along side of the natives of that region. He also raises some good colts; but don't find raising hogs and making pork to be profitable, principally because he cannot rear pigs, which is owing to a most unconquerable love that the negroes have for fresh pork.

His plan of clothing his negroes struck me as something new. He buys the cloth, and hires the "piney-woods people" to make it up. Not because his own people might not just as well do it, but because the poor, white women around are willing to work, and need the pay. He has upon the place, 220 negroes. I give the amount of his annual expenses for several years, by

way of comparison with other places heretofore given.

Year.		Year.	
1844,.....	$4,225	1847,.....	$4,847
1845,.....	3,467	1848,.....	3,690
1846,.....	4,923		

This, it will be seen, is very greatly less than a Louisiana sugar plantation; so that a much smaller crop may still leave as large a surplus.

I have no room to describe the many beautiful paintings and statuary that adorn the mansion, but I must say that the literary visitor will find here one thing to admire, which is too often missing from gentlemen's houses, both north and south, and that is, a most valuable and extensive library; and an owner who is one of the best-read men in the country. The mansion house is located, for the benefit of a healthy site, upon a tract of almost bare sand, in the midst of pine woods; and, being surrounded with so much wildness, the comforts, intelligence, and hospitality found within, are all the more striking. A spot for a well-cultivated garden, has been made by great labor, that being one of the necessary appendages to every dwelling place of highly-improved minds.

It is seldom that I have spent a day more pleasantly to myself, and, I hope, profitably to my readers, than I did the one at Silverton, the residence of Governor James Hammond, of South Carolina, 15 miles below Hamburgh, on the Savannah River.

SOLON ROBINSON.

DRILLING WHEAT.—Can any of our readers give us comparative results in drilling and sowing broadcast? By drilling, every seed is placed at a regular depth below the surface, and is sure to germinate and have a strong foot hold for the roots; thus preventing waste from birds, and liability to winter-kill by throwing out roots which have but a shallow hold upon the surface. Subsequent cultivation and the destruction of weeds can be effected by the use of the cultivator or hoe, if necessary; and there is probably an additional advantage in the prevention of rust, from the free circulation of air between the rows. This is a practice much followed in England. Who has tried it, and with what success, in America? We hope to hear from some of our corespondents on this subject.

PATENT HOOPS.—A machine has lately been invented for making hoops, which bids fair to do away the necessity of growing hoop poles hereafter. Any tough, straight-grained timber will answer the purpose. It is first sawed into square strips, the width desired for the hoop; these strips are next turned round, like a hoe handle, and then slit through the centre. Each stick thus makes two half-round hoops. They are then steamed and bent. Casks hooped with them, present an extra-neat appearance. The whole work is done by machinery. Just previous to setting them, it is necessary to wet them in cold water. A specimen of these hoops was exhibited at the late State Agricultural Show at Syracuse.

UNDERDRANING MEADOWS WITH THE SUBSOIL PLOW.

SOME of our best farmers have lately adopted, with entire success, the system of underdraining their heavy clay and wet meadows. This is done in the most summary manner, by attaching two yoke of good oxen or two pair of horses to a strong subsoil plow, which penetrates to the depth of 15 to 20 inches below the surface. The sod is divided and separated by the plow to a distance scarcely exceeding one and a half inches, which immediately closes after the furrow; and if moist, when the operation is performed, the turf speedily unites and not even a line is visible beyond a few days.

By this operation, a large underdrain is left at the bottom of the furrow where the point, or nose, and wing of the subsoil plow has passed, and nearly of their size, which, in stiff soils, will remain open for years. On meadows where there are puddles of standing water, as is always the case on stiff soils after rains, the effect is instantaneous. If the plow has been started in a ravine or low part of the meadow, (as it should be, so as to form a descent for the surface water,) when it passes through the little basins, the water vanishes as if by magic, and it is heard gurgling rapidly along its new-found aqueduct till it reaches the outlet. In addition to this more immediately perceptible effect, if the meadow thus drained, be closely watched for a few weeks, and especially during wet weather, a marked improvement will be noticed, over similar undrained meadows. The grass will be thicker, ranker, and more forward; it will mature quicker, and yield a heavier growth of sounder and sweeter forage.

The distance of these furrows, or drains, should vary according to the compactness or tenacity of the soil, and the frequency of the basins to be drained. In the heaviest soils, the drains may be advantageously run within ten feet of each other. If less adhesive, and few pond holes exist, the furrows may be a distance of 20 or 30 ft. No meadows, unless of the lightest kinds, will be injured by this operation, while all others will be decidedly benefitted. This results from the imperceptible yet rapid drainage of the water which is held in excess by the soil, and the escape of which is so beneficial to the vegetation.

This operation has been adopted in England many years since, but with an implement considerably differing from the subsoil plow. It consisted simply of a pointed iron, some three inches in diameter at its largest end, which was connected with the beam by two strong, thin coulters. The iron point was often sent three to four feet below the surface, and required a strong force to move it. This implement has been principally superseded where first adopted, by the substitution of thorough and more permanent tile underdraining.

AN ONION FROM KOSSUTH'S GARDEN.—Mr. J. F. Doyle, of this city, has in possession an onion grown last summer in the garden of the celebrated Hungarian patriot, Kossuth. It was taken

by a Polish refugee, and presented to the Rev. Ludovicus Jerzykowitz, and by him to Mr. Doyle. It is 16 inches in circumference, and weighs 1 lb. 14 oz. It is one of the finest onions we ever saw; and we are glad to learn from Mr. Doyle, that he intends to transplant it next spring, and grow seed from it.

NATIVE GRASSES.

Great neglect has characterised the investigations of American agriculturists, as it regards the varieties, habits, and comparative value of indigenous grasses. We have before called the attention of our readers to the great number of spontaneous growth in the different latitudes and varied localities within the Union; and we have tried to elicit original information, derived from actual experience and observation, but hitherto without much success.

There is a great labor—physical and mental—to be performed, and by a great number of intelligent, observing, and cautious farmers, before we shall have the data for classifying the merits, and even the precise or definite character of our forage plants. Their natural habitat, (soil, situation, or location,) must be noted, their variations when changed to other localities; their treatment, or manner of sowing and cultivating; the kinds of manures best suited to them; times for feeding in pastures or curing for hay; and their comparative and actual merit, are all matters of vital importance to be known. When this information has been obtained from multiplied sources, under every varying circumstance and situation, then we shall be prepared to embody, arrange, and classify this most valuble of native American products.

There are great numbers of the grasses peculiar to every situation on this continent. In the low lands of the north, we have the swamp cock's foot, the meadow foxtail, varieties of red top, and many others. On higher lands, above 36° north, we have the Timothy, or foxtail, smoothed-stalked meadow, or green grass, blue grass of Kentucky (*Poa pratensis*); the sweet-scented vernal grass, &c. In the south, are the Guinea grass, in several varieties, the crab and Bermuda grasses; and in Texas, and still further west to the Pacific, the musquit, (muskeet,) the buffalo and tornillo, or screw grasses abound.

Besides these, all of which are indigenous, and innumerable others, less conspicuous but hardly less useful, perhaps, as pasture grasses, there are many of the natural or indigenous clovers, which are invaluable as forage plants. We have observed these in every section of the United States we have visited; but by far the most conspicuous and abundant is the dwarf white clover. This is to be found growing in the greatest luxuriance on the stiff clays of the most northerly states, intimately blended with the green grass (*Poa pratensis*); and it is seen with equal profusion on the levees, by the way sides, or on the *resting* fields of the Delta of Louisiana, whenever the creeping Bermuda permits its egress above the surface. Next to this, is the yellow clover of various species, four of which at least, we have noticed, at the north, and two or more at the south, and we have observed only such as presented themselves unsought before us.

What are the absolute merits of these? How are each of these relished by stock, horses, cattle, and sheep, and what are their nutritive value? We see little left of them in the fields where other forage has been consumed by horses and cattle, and sheep are peculiarly fond of them. We noticed, last summer, among the luxuriant crops of standing grasses, on some of the Long-Island and other meadows, no inconsiderable proportion of the whole crop was the tall, yellow trifolium, much of which was two to three feet in height. May we ask, for the benefit of American husbandry, that our intelligent readers will give us some useful facts and opinions on the subjects of such of these native grasses and forage plants as come within their own observations?

GUANO—HOW SHOULD IT BE APPLIED?

Most persons prefer to sow it upon fresh-plowed earth, and harrow in immediately. Others have found a very beneficial effect by mixing it with earth and sowing upon grain or grass. Some put a table-spoonful of guano upon each side of a hill of corn, taking care that the guano is several inches from the plant, and then cover immediately with a hoe or plow. Some drill it along in the furrow at the rate of 200 to 400 lbs. to the acre before dropping the corn.

Mr. Nelson, of New Kent Co., Va., sowed it broadcast upon wheat land, and plowed it in deep—he thinks the deeper the better—and then sowed his wheat and harrowed in. The land dressed with guano shows a very marked difference. Part of the land had been recently limed; but instead of injuring the effect of the guano, as many suppose, it rather added to the value of it. This is because the guano is buried so deep that the ammonia cannot escape.

Guano is the cheapest and most effective manner ever applied to poor land. It will renovate it the quickest. But after that, don't depend upon this one application; but give your land vegetable manures and rotation of crops, and you may continue to grow them for a long time, just from that one dressing of guano. Use none but the genuine Peruvian, if you wish to be sure that it is good.

Wire Fence.—We intended to add to our article on wire fence, in the January number, that the ends of the wire which hook into each other, should be bent while *red hot*, otherwise, when the wire contracts, as it does on the approach of cold weather, the ends break, which have been *bent cold*. A small, portable furnace can easily be taken into the field, for the purpose of heating the ends of the wire, when the fence is put up.

Sea-Marsh Mud.—Garden peas, growing upon land near Norfolk, Va., manured with this, were not affected by the severe frost of last April, while others, upon adjoining land, were entirely destroyed. Why was this?

WHO IS REVIEWER?

As no little curiosity has been manifested by many of our readers, to learn who is the author of the articles which have appeared in the Agriculturist over the signature of Reviewer, we do not know a better method to unmask the man, and tell them all about him, than to take them with us to his own domicil, and there show him up *in propria persona.*

It was at early dawn of a delightful day, in the month of July last, that, mounting a trusty nag, and accompanied by our faithful dog, we set out to fulfil a long-standing promise of visiting our old friend Reviewer. Following the course marked out on a chart, with which he took good care to furnish us beforehand, we soon cleared the pent-up atmosphere and hurly burly of imperial Gotham, crossed Harlem Bridge, and then taking a north-east course, jogged gaily along, admiring the beautiful scenery of Westchester as it spread wide on either hand along our route, inhaling large draughts of the bracing country air, perfumed by the fresh-cut grass, and listening to the sweet caroling of numerous birds. Soon after crossing the line which divides New York from good old Connecticut, we left the great eastern highway, and turned short into a road of very narrow dimensions, and apparently little travelled. We had not proceeded far upon this course before the track became suddenly rough, hilly, and devious; and thus it continued till towards the close of the evening, when we seemed to reach the apex of a dividing ridge of high hills or mountains. This crossed, we began to descend rapidly, when, suddenly turning a lofty precipice, an enchanting valley, upwards of a mile in width and several miles in length, spread out before us, bounded by high, sharp, conical hills, shutting it in apparently from all the rest of the world. A clear, rapid stream, bordered by rich meadows, coursed its devious way, about two thirds of the distance down this beautiful valley; and then took a wild tumble of some twenty feet or more over broken rocks, and spread out into a lovely lake, bounded by the lower range of hills, through whose gorge the crystal water broke foaming over another still wilder cascade, and again became a swift, brawling stream, till it met the tide waters of the Sound.

We had not advanced far into this charming valley, when we espied a large, two-story, old-fashioned, white house, with a wide piazza in front, and dormer windows in the roof, standing on the brow of a gentle eminence about two hundred yards from the road, and half hid from the view, by wide-branching, venerable trees. From a previous description, we at once knew this to be the "Captain's" residence—for by this title, only, is Reviewer known, the country over.

We had scarcely reached the entrance gate, from the high road, when we were met and heartily welcomed to his home, by a thick-set and rather weather-beaten looking man, with grey hair and black eyes, and in whose countenance sat an expression of no little shrewdness, commingled with great benevolence. This, gentle reader, was no other than our hitherto unknown Reviewer; and if you will now add to our description, the habiliments of a half sailor and half farmer of a highly respectable Connecticut class, you will have a very good idea of the person whose acquaintance you have so long sought.

The Captain's family consists of a wife—a gentle, delicate woman, some ten years younger than himself—two sons, and three daughters. The eldest of the latter is well married to a young farmer, who is his nearest neighbor. The other children are at home.

His farm contains two hundred and twenty-seven acres, and is considered one of the best in the valley. It fronts about a quarter of a mile along the lake and river, and then runs back in the form of a parallelogram to the top of a thickly-wooded hill, nearly half a mile in the rear of his house. The lower part of the farm, bordering the water, is rich meadow, and is kept constantly in grass. The centre is rolling land, and, with the exception of a few acres, reserved for lawn and trees around the house, this is kept under a regular rotation of grain and root crops. Higher up, the surface is so steep and rocky that it is never disturbed by the plow, but is left to pasture, orcharding, and woodland. Upon the whole, it is a highly desirable property, and well suited for the varied crops usually cultivated to most advantage in Connecticut. Perhaps of these, and the management of the farm, and some other matters—unless the Captain forbid—we may speak more particularly hereafter.

We asked him how, after seeing so much of the world, he could be contented to settle in a spot so completely inland. He replied that it was for this very reason he had sought a quiet land-locked harbor; besides, it was the old homestead, the place where he was born, and where his ancestors had resided from the first settlement of the country; and he had a pride, as well as pleasure, in retaining it in the family. Then the climate was healthy, his neighbors intelligent and agreeable—there were plenty of fish in the river, fine sailing on the lake, and game in the mountain forests. What more could a quiet man desire?

The Captain's history we had not fully learned till this visit. It seems he had been brought up on the farm, and there remained till nineteen years old, when he took a fancy to ship as a man before the mast, and go to sea. He rose rapidly in his new profession, and soon got command of a vessel. After this, his course was rather a checkered one, with a shipwreck or two, and various other mishaps; yet, in the long run, he was prosperous. Fifteen years ago, finding he had accumulated enough to enable him to live independently, he relinquished the sea, and from that time has devoted himself assiduously to the improvement of his farm, of which he seems extravagantly fond. Soon after we were at his house, he left for a voyage to Europe, for the benefit of his health. Recent letters from him inform us that he has coasted the

Atlantic from Liverpool to Gibralter, and thence up the Mediterranean to Constantinople. He is now daily expected home, in improved health. We have no doubt, in March, our readers will again have the benefit of his comments on the various articles of the Agriculturist. And now, since the mask is removed, and they know their man and his whereabouts, we trust that they will not be less interested in his writings than heretofore.

PRODUCTS FROM THE MULBERRY.

Extracts from letters lately received from a veteran silk grower, now 84 years of age, who has spent the last 20 of his life in ineffectual endeavors to introduce the extensive cultivation of silk into the United States.

"It has long been hoped, that a cheaper and more rapid mode of separating the bark of the mulberry from the wood of the sprouts could be discovered, than the ordinary process of doing it by hand. I have now hopes that it may be effected in this town, next season, by appropriate machinery. But if it cannot, I feel confident that it may be effected by hand labor, in August, when the bark may be easily separated from the wood of young, annual sprouts, without interfering with the process of feeding worms with the foliage, which ought to be finished before that time, in New England.

"Canton mulberries are decidedly the best kind for feeding worms. This is the kind used in China for making their best silk. They annually head down their mulberry, as appears by a set of 28 plates of paintings, one of which represents the process of cutting down the mulberries close to the ground, with a crooked knife, and carefully laying them aside for some use; probably to heat their furnaces for reeling the cocoons; and, as fuel is scarce, and they *save all*, they probably strip the sprouts for bark silk, which is strong, durable, and from which good silk is made for sewings, handkerchiefs, or other purposes.

"I had my mulberries headed down, a few days since, and covered in the field, for experimenting with next spring; and covered the stumps, to prevent the water from entering between the bark and wood, and injuring them.

"If I do not succeed, by machinery, in separating the bark from the wood, I am of opinion that, after the season of feeding, it may be done by hand; submitted to the operation of rotting, to loosen the outside cuticle from the proper fibrous bark. It may be dressed like flax, skeined, spun, and wove, like common raw silk, and used like raw silk, for any purposes.

"If such a process can be made to succeed, the seed can be sown in drills, or broadcast; and it is thought that as many pounds of bark silk may be taken from an acre of ground, as of flax. If this can be successfully carried out, it may be the most profitable business of agriculture ever known in America." Daniel Stebbins.

Northampton, Mass., Nov. 19th, 1849.

—

Accompanying these letters, were several specimens of the *bark silk*, so much like the *tow of silk*, as to be easily mistaken for it. They tend to confirm the recently-acknowledged principle, that the animal economy *appropriates—not materially changes*—the proximate substances, or principles, pre-existing in the plants which have contributed to its support.

We hope yet to see our rural population extensively engaged in the various pursuits of rearing the mulberry and silkworm, and converting their products into useful, tasteful, and remunerating fabrics. At the rate we are going on, importing 200,000 to 300,000 Europeans annually, we must take care to introduce their arts and employments with them, or our national balance wheel will soon be sadly out of joint.

INCREASE OF FERTILITY FROM SHADING THE SOIL.

Every observing person must have noticed the unusual productiveness of soil which has been closely protected for a time. The earth under a building, the northerly side of a wall or large log, is itself a valuable manure. How is this result or change in the character of the soil produced? Will some of our scientific readers explain?

We know that such earth contains large quantities of nitrate of potash, (saltpetre,) and nitrate of ammonia, and it is frequently used for extracting saltpetre in the manufacture of gunpowder. Does it not contain other salts, absorbed from the atmosphere, and developed in the soil, in consequence of its peculiar position, all of which are highly favorable to the growth of vegetation? And how can this result be made of practical benefit to agriculture? We have heard much of the beneficial effects of *Gurneyism* (covering meadows and pastures with straw, or refuse vegetables.) Has this been tried, and with what result in this country?

Feeding Qualities of Pigs.—A correspondent informs us, he bought, in September, two Berkshire pigs, six weeks old. He kept them in a warm pen, and gave them the slops from a small family, intending them for breeding. On looking at them, the last of winter, he found them too fat for breeding, and accordingly slaughtered them, at eight months old, when one was found to weigh 240 lbs., and the other 278 lbs., dressed.

Another says, a sow, mostly Berkshire, was butchered on the 9th of January last, in Conn., at precisely a year old, and dressed 553 lbs. A neighbor has just slaughtered two swine, at about 14 months old, both kept together and fattened in the same pen. One dressed 478 lbs; the other 247 lbs. The lightest had eaten much more than the heaviest, and when the last had filled himself from the trough, the other, though eating faster than his chum, was always on hand for the remaining food; and a very coarse brute, too. So much for breed.

Long and Short Teams.—Nowhere else in the United States, except in the vicinity of Wilmington Del., and from there to Philadelphia, have we seen the curious notion prevail of hitching four or five horses in a string, to a cart or wagon.

But there it is almost the only manner. It is a notion derived from the Swedes, who first settled that region, and who, in their own country, traverse very narrow roads. Those who follow the practice, contend that a team will pull more thus hitched, than in any other way. But the contrary is the fact.

As a contrast to this, in many parts of the south, you will see nothing but one-horse carts; and frequently one-ox carts. These would look very curious to Yankee boys, especially, as the oxen are very small.

AMERICAN PROVISIONS IN ENGLAND.

Our export of provisions for Europe is confined almost exclusively to England. Notwithstanding the immense amount of wines, brandies, silks, and gew-gaws we receive from France, the toys and other worthless trumpery we get from Germany, and elsewhere, there is scarcely a pound of American provisions consumed by the German or the Gaul. The Anglo Saxon alone, takes a small portion of that immense surplus of the staff of life we produce in such boundless profusion. We think it far better that our population should divert a larger proportion of their labor to manufacturing the articles we receive from abroad, and thus check the excessive production of provisions, which would consequently be principally consumed at home. But our "free and independent" legislatures think otherwise; and, leaving the more responsible duties of law making and national policy to them, we content ourselves with occasionally giving a few brief hints to our producers of export articles, that they may receive some small returns for their laborious toil and exhausted lands. If they will delve on and impoverish their soil to feed hungry manufacturers abroad, instead of bringing them to our own shores, and protecting their labor, and feeding them here, we wish to afford them what little light we can to mitigate their losses—we will not be guilty of the mockery of calling it an augmentation of their profits.

The negligence of American farmers in putting up provisions for market, whether at home or abroad, has, for a long period, been proverbial. They may do much better to feed American mouths, which have become accustomed to these preparations; and the producer has the further advantage, that we must take them as furnished or starve; while the proximity to our domestic market, prevents that excessive deterioration, before reaching the consumer, which they experience when sent abroad. We are so much accustomed to soft, rancid butter; hard, strong cheese; lean, stringy beef; gristly, flabby pork, that it would seem to have become a vested right in our producers to furnish them to the extent of the demand. This immunity of supply is trebly secured by constitutional right, the laws of the land, and immemorial usage, "whereof the memory of man runneth not to the contrary." Thus much for America. But when we send our commodities to Europe, they have to be tried by other tastes and customs. The predilections of Victoria's subjects will not permit cramming with stale, rancid, nor offensive provisions, and the result is, that we receive but one half, and sometimes not one third, the price we might have received for good articles.

These remarks apply with more force, if possible, to butter, than to beef, pork, bacon, and lard. Many specimens of American butter—the entire season's make—will command from the wholesale dealer in the New-York market, from 18 to 22 cts. per pound; while a large share of butter, equally good when taken from the churn, in consequence of subsequent mismanagement, will bring only 6 or 7 cts.; and it sells for this paltry price, not for any edible qualities it posseses, but simply for *grease*. Our farmers, who like to furnish these wares for such prices, will find no obstacle in continuing the supply.

VALUE OF CORN COBS.

A friend, who had read an article in some paper, recommending corn cobs, ground or unground, as an excellent and valuable feed for stock, undertook to test the truth of the statement for himself. He had a large quantity on hand, and after providing himself with the proper vessel, (a half-hogshead tub,) he filled it with cobs, and then added a solution of salt in water. In this steep the cobs were suffered to remain, till they had imbibed a sufficiency of the fluid to make them soft. In this condition they were then fed out to the stock, at the rate of half a peck to a full-grown cow or ox, in the morning, and the same at night. He remarked that all his animals were extremely fond of the cobs; that they consumed a much less quantity of hay and grain than before he commenced giving them this feed; neither did they require salt in its natural state. He has also ground several bushels of cobs, and finds the meal an excellent article for making mush.

I have used corn and cob meal, ground fine, with and without oats, for horses, the last 12 or 14 years, and I think it an excellent feed. It keeps a horse loose in his bowels, his hair lies smooth, and it makes a great improvement in his looks. I also use the meal with wheat or oat chaff, to feed horses. When I first came to live in the neighborhood, I was ridiculed by the neighbors, who said my horses would all die before spring; but when spring came, they were fatter, and in far better condition than theirs. I found that they took my advice after this, and fed the same as myself, making a great saving in feed. A Subscriber.

Gowanus, Dec. 20th, 1849.

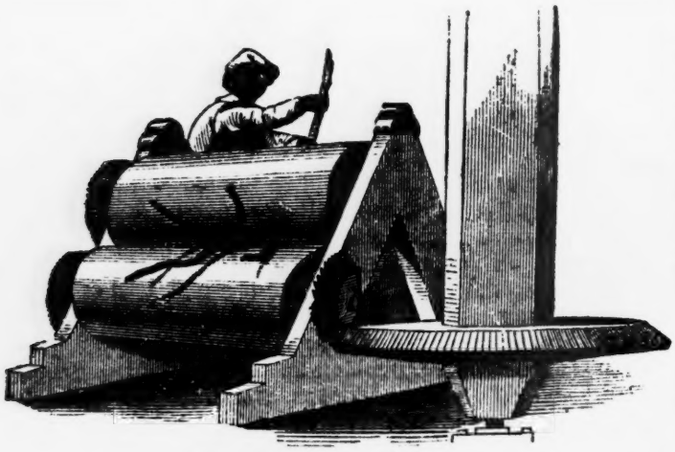
Value of Ashes.—Thomas Hancock, nurseryman and farmer, Burlington, N. J., pays 12½ cents per bushel, in Philadelphia, for leached ashes, and two and a half cents freight, and then hauls them 2 to 3 miles, and applies them at the rate of 160 bushels to the acre, upon sandy soil, and finds it a profitable application.

Value of Guano.—The same person abovementioned, sifted two quarts of guano upon a row, 40 rods long, and raked it in, and planted cabbage. Upon other rows, he put a good dress-

ing of manure. Others, he planted without any application. Loamy soil and well worked. Between the guano and manure rows, there was little or no difference, while, upon the unmanured rows, there grew only here and there a small cabbage.

CHAPMAN, RANDALL & CO.'S SUGAR MILL.

The following cut shows a sugar mill, recently invented, adapted to horse and other power. This mill saves much of the labor heretofore consumed in grinding the cane, and expresses a much larger proportion of the cane juice than has been done by many of the mills in use. Great improvement has long been needed in the grinding and manufacture of cane, and we are glad to see the ingenuity of our countrymen directed to this important branch of American products. These mills are made of various sizes, and are adapted to small as well as large plantations.



Sugar Mill.—Fig. 23.

THE GENERAL GOVERNMENT IN FAVOR OF AGRICULTURE—AT LAST.

General Taylor *never surrenders*, neither his own honor nor the interests of those confided to him. He has come out, in his first message to congress, as we supposed, from a slight personal acquaintance and some familiarity with his public and private character, what he would do; and in a brief, but sound, common-sense, patriotic document, ocupying but three columns of our larger city sheets, he has briefly, but clearly and most unquestionably, set his sign manual to be a recommendation for legislative aid to the interests of agriculture. Hear him.

"No direct aid has been given by the general government to the improvement of agriculture, except by the expenditure of small sums for the collection and publication of agricultural statistics, and for some chemical analyses, which have been, thus far, paid for out of the patent fund. This aid is, in my opinion, wholly inadequate. To give to this leading branch of American industry the encouragement which it merits, I respectfully recommend the establishment of an Agricultural Bureau, to be connected with the Department of the Interior. *To elevate the social condition of the agriculturist, to increase his prosperity, and to extend his means of usefulness to his country, by multiplying his sources of information, should be the study of every statesman, and a primary object with every legislator.*"

For the first time since the days of Washington, we believe, has this subject been so directly urged upon our national legislature. Mr. Ewing, in his report for the *Department of the Interior*, has followed up this subject rather more at length, as follows:—

"The agricultural interest stands first in import ance in our country, and embodies within itself the principal elements of our national wealth and power; and it should be with us, as it has been, and is, with all other prosperous civilized nations a leading object of public care and patronage The principal nations of Europe have their agricultural boards, known by various names, under the direction of men of high scientific attainments, supported out of the revenues, and connected with the administration of the government. And, to borrow the language of the father of his country, in his last annual message, 'This species of establishment contributes doubly to the increase of improvement, by stimulating to enterprise and experiment, and by drawing to a common centre, the results everywhere, of individual skill and observation, and spreading them thence over the whole nation. Experience, accordingly, has shown that they are very cheap instruments of immense national benefit.'

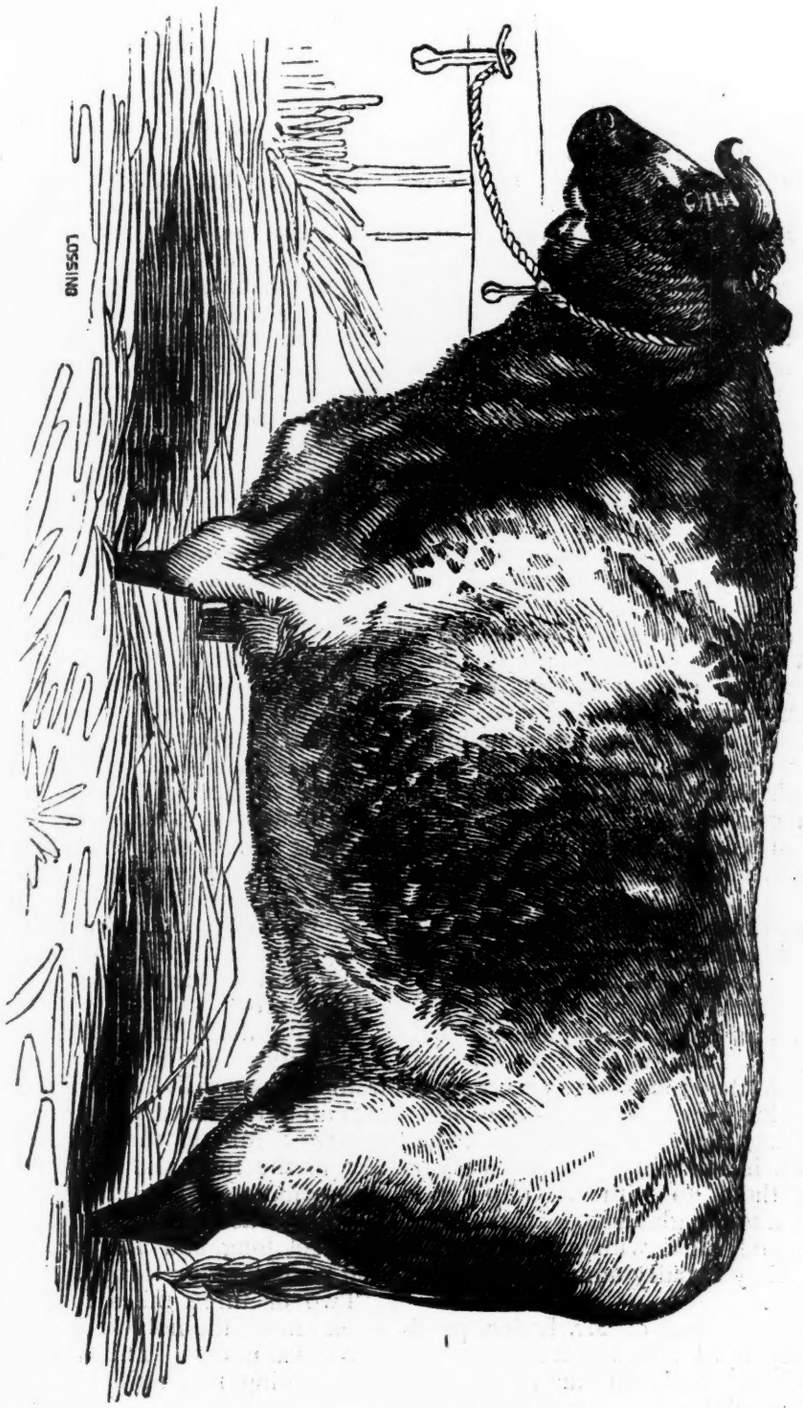
"No direct aid has been extended by our government to agriculture, except by the yearly collection and publication through the Patent Office, of some agricultural experiments and statistics; and recently, the analyses of some soils and vegetable productions. The means thus applied, though useful in their results, are wholly inadequate. To meet the great object fully, and to give this leading branch of American industry the aid which it so well merits, I respectfully suggest the establishment of an Agricultural Bureau, connected with this department, but separated from the Patent Office. The expense would be small, compared with the object to be accomplished.

"If this suggestion should meet with the approbation of congress, and the organisation of a bureau become a subject of consideration, much aid may be derived from consulting the systems adopted by France and Belgium, both of which have done much towards the advancement of agriculture as a science. Belgium, it is believed, has the best organised agricultural department; and, partly owing to this, partly to the natural fertility of the soil, is the best cultivated and most highly productive country in Europe."

We trust agriculture has at last reached such a point of importance and respectability in the eyes of our public men, that it may receive, hereafter, some part of the attention from those which it has so long sought in vain.

A DURHAM FAT OX.

THE cut below represents a grade Durham, or shorthorn ox, fatted for the London market, and standing up to his knees in a comfortable straw bed. We wish our readers to examine this figure particularly, and notice what an improvement it is over the large, coarse animals of the country. This ox is not a showy animal, but he is a snug, well-made, well-fatted, useful beast; and one, we dare say, that paid well for the food he consumed, from his birth up. The head is rather thick, and the horns slightly coarse; but



A DURHAM FAT OX.—FIG. 24.

the legs and tail are fine. The brisket is not quite so well developed as it should be, but the crops, loin, buttocks, and barrel, are capital. Depend upon it, that he made many a tender, dainty dish.

CORN ESTIMATED BY THE HILLS, AND NOT BY THE ACRE.—In many parts of the United States, the yield of corn is counted by the thousand hills, instead of by the acre. Inquire what the average yield of corn is, and you will be told, "so many bushels to the thousand." If planted four and a half feet each way, an acre will contain 2,151 hills. In parts of Kentucky and North Carolina, 100 ears of corn are counted for a bushel.

BENEFIT OF RAILROADS TO AGRICULTURE.

The New-York and Erie Railroad.—Twenty-five years ago, I left the city of New York to visit Binghamton. Eight hours upon a steamboat of those days carried me to Newburgh. Four days and nights, long, tedious toil in a post coach, over that region of mud and mountains, hills and hollows, and through vast, uncultivated forests, opened to our sleepy senses the valley of the Susquehanna, rich in its native pines, and covered with a fertile, uncultivated soil—for it had no market for the farmer's produce—no outlet for a surplus, except down the long and dangerous voyage of a lumberman's raft to the far, far away port of Baltimore.

How the throng at Binghamton, gaped, open-mouthed, around "the man from York," to hear his news "in advance of the mail," *only four days old.* Whoever then thought of things to come? Who, dreaming, would have dared tell his dream, that within less than a quarter of a century, a locomotive should be seen thundering through the little quiet village of Binghamton, with thirty burthened cars, carrying 300 tons of freight; and that this would come from New York, up and along the Delaware, and over the intervening mountains, down into this valvey? Who then would have believed "the man from York," if he had told the quiet villagers that after twenty-five years he should visit them again; that he would then take his breakfast in New-York City, and his supper in Binghamton? That the might and power of man; that the persevering energy of the Yankee, would say to the granite hills—give way, and to the iron-bound points of rocks, a hundred feet high along the Delaware, we must pass; and that the hills should sink down, and rocks of ages, grown grey in their strength, should yield to the iron will of man, to make an iron road through these hitherto impassable mountain fortresses.

No one would have believed the wild dreamer. But all this has been done. Who can realise it? The New-Yorker reads of the New-York and Erie Railroad; little he knows of what its projectors and builders have accomplished. The city lady rejoices that now she can sip pure milk, fresh from the mountain pastures of Orange county; but how little she realises what a mountain-moving power has been exerted to make a path to bring this sweet luxury daily to her door. Let them go with me along this mountain route, and be gladdened at the sight of its beauties, and filled with surprise at its wonders, while they equally admire the works of nature and art.

Through the politeness of Mr. Loder, president of the company, I received a free pass to enable me to go over and examine the agricultural capabilities of the region through which the road has been made. How can I describe and journey through a region, and along such a road as this, and not have it appear tame and uninteresting, particularly to one who has ever been whirled along with the power of steam through the valley of the Delaware? We leave the city, foot of Duane street, at seven in the morning, on board of one of the company's excellent boats, and directly after we are called down to a breakfast, ready for all that have not taken an earlier one at home. In two hours we are landed upon the almost mile-long wharf at Piermont, twenty-five miles up the Hudson. This is the first wonder. It must have cost nearly a million of dollars. Whether judiciously expended or not, I will not discuss. Here it is, and will remain an enduring monument to point to every passenger upon the river, the easterly terminus of this great road. It is very spacious, and brings the cars close down to the boat.

The rails are of the H pattern, and very heavy; laid upon cross ties, and being six feet apart, give us very roomy cars; in fact, the best in this country. Now we begin to climb over the mountain barriers between the Hudson and Delaware; up through the rugged Ramapo Valley, winding along the Orange-county farms; noting at every station the rows of milk cans, and baskets of garden vegetables, ready for the "market train," until we come to that once old inland town, (now inland nò longer,) of Goshen, fixed in my youthful memory as the home of the old "butter hills," of a bank whose capital, if not butter itself, was the product of it. At Port Jervis, we come down upon the Delaware, a moderate mill stream; seventy-seven miles from the Hudson, and thence along the river bank as much further, crossing it twice, through the wildest region that ever reverberated the startling scream of the locomotive whistle. At one point, the train is suspended, as it were, and it actually appears, when seen from below, as if upon a narrow shelf excavated out of the perpendicular face of the mountain, where the very thought of a tumble is enough to make a sensitive man's bones ache. What now shall be done to make these pine-denuded hills productive, is a question that ought at once to be discussed? Why not cover them with grass and sheep, and send to New York the finest mountain mutton in the world, by every nightly train upon the road.

Leaving the Delaware, at a wide-spread, scattering village on its banks, once a great lumber-trading town, called Deposit, now just emerging into an agricultural place of trade and forwarding, we climb up the summit grade, nearly 60 feet to the mile, and over about 20 miles to the Susquehanna at Lanesborough; crossing in the way the Cascade Bridge, a wooden structure, 270 feet long, and 175 feet high; yet, as firm and unshaking as a rock.

Two or three miles further on, and we are upon one of the noblest structures of this wonder-working age. The valley of the Starucco, a wild, raging mountain stream, where the deep snows send down their floods, is spanned by a solid, stone bridge, 1,400 feet long, and 100 feet high, built upon seventeen arches, and in such a perfect manner, that generations shall come and go, and yet that monument of man's power to do good, shall tell to after ages the story of this great road. Still further along, upon another bridge, we almost pass over the top of the

town. It would be an easy trick for old Santa Claus to take a flying leap from the cars into the chimney top of some of the Lanesboreans.

Now we are in the rich and lovely valley of the Susquehanna, and at seven o'clock, only twelve hours from New-York City, we alight at Binghamton, 227 miles from thence. It is not the little village of twenty-five years ago, far away in the interior of the state, and almost unapproachable, but a flourishing, lovely town; a suburb almost of the great emporium. What a change has the realisation of that wild dream accomplished for the valley. Agricultural products, which formerly were not worth cultivating for want of a market, now find ready sales and daily transit to an all-absorbing market. Only think of shipping frame houses to San Francisco from this place over the Erie Railroad! Ah! and think too what is very likely to be the case a few years hence! Beef and mutton will not only be fatted upon these rich lands, but the slaughter houses of the city will be here also, and the animals killed, as they always should be, where they are fed; when the facilities are as good for sending the meat to market, that if butchered in the afternoon, and hung up in cars constructed on purpose, with wire gauze windows, it would be in market next morning in fine order, and far better than when the poor beasts are driven or transported alive. It appears to me to be one of the grossest pieces of folly, in our time, to continue to butcher animals within the city. Look at the amount of offal to be carried out again. The hides, too, are sent back over the same route to the tanner.

But I am off the track. Yet these things are all so intimately blended with the railroad that I can but speak of them. The road is now completed 260 miles, to Elmira, and in a few weeks a branch will be completed from there to Seneca Lake, and a large and good steamboat running all the year, (that lake never freezes,) to Geneva. Another branch is nearly ready between Owego and Ithaca—29 miles—and through Cayuga Lake, thus uniting, by either of these routes, with the northern railroads. Even now the amount of travel upon the road is enormous, but when the branches are open, it will be greatly increased; and when it is finally terminated upon Lake Erie, it will exceed any other work, perhaps, in the world, in the magnificent manner it is constructed, and in its continual length and incalculable business. It is worth a journey of a thousand miles in addition, to witness the surprisingly beautiful scenery of the country through which this road passes.

I visited several farms in the Susquehanna Valley, of which I shall speak hereafter.

SOLON ROBINSON.

New York, October 27th, 1849.

LOCKE says we are to be classed as *mental ruminants*. It is not enough to *cram* with collections of facts and theories, but we must *chew* them over and over, before they will yield strength and nourishment to us.

PRODUCTS OF ILLINOIS.

OUR state being mostly prairie, indicates very definitely our leading productions, which are wheat, corn, and grass. The wheat, after taking what we want for our own consumption, and you may rely upon it we are not sparing in its use, we ship east and west, north and south, as best suits the convenience of our farmers. Previous to the construction of the canal, immense quantities were hauled to the banks of the Illinois River, and thence carried by steamboat, some twenty or thirty of which, in the winter of '46 and '47, found constant employment in freighting our rich products to St. Louis, on their way to mitigate the famine in Europe. In voyaging leisurely along this route, I have been almost incredulous at the enormous quantity of produce reported to me to have been sent forward from the successive little shipping ports which line this minature Nile. Now, the tide of transportation is turned northwardly, and large quantities of our products, which formerly went down stream, go backward towards its source, and crossing the narrow isthmus, at Chicago, launch upon the broad waters of Lake Michigan, towards your emporium. Although this navigation is nearly twice the distance, and about 500 miles of it is through artificial channels, yet we find our account in sending generally by this route, as we are always sure of the best American market, and the safer and cleaner transport secures us a higher price than when it goes by New Orleans. That our wheat is good, you must have had conclusive proof in the millions of bushels we have hitherto sent; though it has been the practice of some of our farmers to mix their spring and winter wheat for market, which has, to some extent, depreciated our average standard. Our buyers, however, have become more discriminating than formerly; and by their diminished offers for the spring grain, have now more generally induced the growers to retain it for their own use, (for which it is really quite as useful,) and send only the more highly-prized winter grain forward for exportation.

As for corn, we raise it almost beyond count—not so intolerably abundant as in the middle and southern part of the state, yet in sufficient quantity to fatten a very large number of swine and cattle. Our pork and beef markets are small in comparison with that of Cincinnati, the pork emporium of the universe. But we are steadily advancing in these products, and in beef, especially, we have been winning golden, literally *golden* opinions from Europe, for our finely-packed, prairie-grass, and corn-fed beef. Grass furnishes us the groundwork for our fat cattle, which, but a few years since, were invariably driven to market. Since we have taken pains to learn the English system of *fattening*, as well as *packing*, we have made our herds vastly more profitable by slaughtering and putting them up at home.

We supply ourselves with dairy products, but export few comparatively as yet. We shall, within a few years, probably, when we have learned the science of making, preserving, and packing, according to European plans, become extensive exporters of butter and cheese.

Of *fruit*, we have not yet extensive collections, but we are rapidly advancing with our orchards, which contain some of the choicest specimens of all kinds, as might have been seen from the samples recently sent to your Fruit Conventions in Buffalo and Syracuse. But I must leave this branch of our horticulture to some of our more exclusively professional pomologists, who are abundantly able to do justice to the subject.

Near Mount Joliet, Ills., J. D. S.
Nov. 29th, 1849.

AMOUNTS OF SUNDRY ARTICLES OF MERCHANDISE

Imported into the United States during the year ending December 1st, 1849.

Woolen fabrics,	.....	$11,566,082
Cotton	do.	9,634,467
Silk	do.	15,090,811
Flax	do.	4,889,551
Miscellaneous,	.....	3,794,418
Total,	.....	$44,975,329

So much for dry goods. We then have 112,010 tons of iron, costing $4,155,480, besides hardware, and numerous other articles, such as sugar, coffee, tea, brandy, gin, wines, spices, toys, *et id omne genus*. Now, as there is a large proportion of the raw material entering into each of the above fabrics, our agriculturists can readily understand that their own interests would be largely promoted, by the establishment of additional manufactures in this country, to consume their surplus products of wool, cotton, flax, and hemp, and to stimulate the production of silk and other articles. Besides consuming the raw materials that enter into foreign goods, and which are now, (excepting the cotton,) exclusively furnished abroad, this change would be beneficial in two ways—first, by diverting labor from the present overloaded agricultural classes; and, second, by giving an additional demand for all the other products which these laborers would require while thus engaged. All the iron, copper, lead, and zinc ores and coal consumed in their manufacture, would, of course, be clear gain to us, as a nation, as they would otherwise slumber unheeded, for ages to come, as they have for ages past, when the country was inhabited only by Indians.

SALT, MIXED WITH LIME AND MAGNESIA, AS MANURE.—Will some of our readers, in the neighborhood of the New-York, Kanawha, or other salines, inform us whether the substances, (bitterns,) above-named, are ever used for agricultural purposes, on what soils and crops, how applied, and with what success? The two latter are frequently detected, sometimes in large quantities, in evaporating salt water from springs, and are only an incumbrance about the furnaces. We think their application cannot fail to be attended with great advantages as fertilisers, for almost every soil—and certainly to the extent they are required as food for crops.

CARE OF YOUNG STOCK.

THE first winter is the most trying time for young animals, and farmers should pay extra care to their health and comfort. They ought to have the open air as much as possible; and it is well to let them have convenient shelter during the storms, except in very stormy weather, when they ought to be put into close warm stables. They ought not to be confined in yards with older cattle, for fear of goring them, and they have not such a good chance for their food. They should be fed regularly, and have a chance to the water.

In addition to hay, lambs and calves ought to be fed daily with a small portion of roots, except in extremely cold weather. As for colts, they ought to be fed daily with ground feed, mixed with clover heads or chaff, which I think is preferable to oats or any other whole feed. They ought never to stand on a board floor, as it causes ringbone.

When I was a boy, I lived in Orange county, learning a trade; my employer used to keep four horses; he had two stalls in the barn, one with a plank floor and the other a ground floor. In the winter, when horses were not much used, those that stood on the plank floor were much stiffer in their limbs or joints when they came out of the stable, than those that stood on the ground floor. Since I have been a farmer, living on Long Island these last twenty years, I used the ground floor for my horses and colts; and I like it better than plank floor, except the saving of the manure and the urine which is wasted. I went to sea after I served out my apprenticeship in Orange county, as the second war with England had just broke out, and I had entered the service of the navy as a midshipman, which service I staid in for eighteen years; and after the war, I was on the South-Sea Station; and while on that station I had a great deal to do with horses, as there are plenty in South America, I saw a great many, and rode a vast number. I found them very nimble of foot, their hoofs hard. I was informed by the owners that they stood on ground floors, and that they liked it better than a hard one; and that their horses' food was barley and barley straw; for that was all that they gave them. The horses were in good condition. A LONG-ISLAND SUBSCRIBER.

Gowanus, L. I., Dec. 29th, 1849.

DRILLING GRAIN—THICK AND THIN SOWING.

I HAVE seen a good deal lately about Pennock's wheat drill, and its great superioity over broadcast seeding. I am a decided advocate for the use and employment of all labor-saving machinery, coming within the limited means of the great body of farmers; but I very much question if the friends of the above do not attach more importance to it than its merits really warrant. Mr. Charles Noble, on the cover of the Plow, Loom, and Anvil, states that from No. 1, an acre broad casted with two bushels of seed, he reaped 27½ bushels; while from No. 2, an acre alongside, but of inferior quality, drilled with 1½ bushels of seed, he secured 35 bushels; thus saving 3 pecks of seed, and gaining 7½ bushels

by increase of crop, which he attributes to the use of the drill. That may be; but I will warrant, had Mr. Noble stated the case to any Accomack farmer, he would have told, as quick as asked, which acre made the most profit; and I would be willing to wager a year's subscription to the Agriculturist, that had three pecks been sown on No. 1, instead of two bushels, by a good seedsman, it would have beaten No. 2. Let the owners of the drill try it, by broad-casting and drilling equal quantities of seed on a given surface of equal fertility, and if all things equal, there is an increased yield on the drilled land, then it may be regarded as some evidence of its superiority.

Is there *economy* in the use of the drill? It seems to me that while you are preparing your land for the drill, I could sow my wheat in the same time, and be done with it. I have had some little experience on this subject, which has satisfied my own mind, not of the superiority of Mr. Pennock's, nor Mr. Anybodyelse's drill, but of the great superiority of *thin* over *thick* seeding.

Several years since, a friend and myself wagered a trifle on the product of an acre of wheat; he seeded three pecks—I two bushels. His acre was left in the roughest possible condition; while mine, manured, limed, plowed, and dragged several times, was like a kale bed. His wheat stood thin on the ground, branched well, had heads six inches long or more, well filled, and yielded 45 bushels. Had it been well harvested and threshed, I thought, (and good judges agreed with me,) it would have made 50 bushels. Mine was thick and luxuriant, with heads less in length than my little finger, and produced 17 bushels; yet I had three times the quantity of straw.

One October, I seeded four bushels of white-bearded wheat on No. 1, three acres of ordinary corn land, and in November, after the plow had been *once* stopped by the frost, I seeded two bushels and four quarts of the red-bearded variety on No. 2, three acres of inferior land; harvested the 1st of July; both lots very much injured by rust. Product of No. 1 was 25 bushels; product of No. 2, 31 bushels. A tenant on three acres of land of similar quality, from 1½ bushels of seed, reaped 36 bushels.

I determined at one time to grow rye, and for that purpose procured a bushel of seed from an old gentleman, who charged me, as I was a young beginner, not to sow more than half a bushel to the acre. I did so, and took 14 bushels from the acre. Before next seeding time, I got hold of a copy of Lorrain's work on husbandry, which informed that I ought to sow at least two bushels to the acre. The first time I met with my old "fustian jacket" friend, I told him what Lorrain said, and that I had followed his advice. With a laugh he replied, "I'll bet you a ginger cake that you come to me next fall for more seed." And so I did; for, although my rye was the admiration of all who saw it while growing, I reaped nothing but a crop of straw. And a certain honorable gentleman in these parts, and a great advocate for *thick* seeding, were he so disposed, could tell a rye story fully as bad, if not worse, than mine.

Once more. The late J. H. D., decidedly the best farmer in Accomack, who had, by a well-directed industry, even under the everlasting system of corn and oats, brought a very poor farm to a high state of fertility, informed me, a short time before his death, that a few years since, he sowed two acres with the potato oat, which, in consequence of a severe frost, of several days' continuance, were nearly all killed. A few, however, came up, standing thin enough on the ground to be worked with a hoe. He determined, at one time, to plow the lot up, and put it in corn; but, as it would have to be fenced, he concluded to let it stand. The two acres produced 80 bushels; while not a single acre, seeded after the frost, with the usual quantity of seed, yielded 25 bushels. Suppose, on these occasions, the drill had been used, would not the different results have been attributed to it?

NUGATOR.

Accomack Co., Va., Dec. 20th, 1849.

—

As our correspondent has brought facts to substantiate his theory, his argument in favor of thin sowing, in his soil and climate, is incontrovertible. But a different soil or climate might make a great difference, and demand thick sowing. A cold, moist climate, or a very stiff, clayey soil, requires an additional quantity of seed; for, in the former case, more or less rots before vegetating, while, in the latter, it cannot be well covered.

We have made repeated experiments between thick and thin sowing, in different soils, and find that four quarts of clover seed will produce as good a stand, in a rich, friable, limestone soil, as 24 to 32 quarts will, on a stiff clay. In grass seeds, the difference is not so great; grain requires about double the quantity of seed.

The first part of our correspondent's letter is highly amusing; and if our periodical were not so sober and matter-of-fact, we would gladly insert that, also. If he will inform us who he *really is*, we will take care that Mr. R. "eats salt" with him, at some future day; and we have no doubt, if we could at the same time contrive to drop into the "cage," together with the "old tar" and the "Sargeant," we should make an *improving* night of it.

WHEAT BRAN AS A FERTILISER.—This has been tried by several persons in Delaware with great success. It is said that a handful to the hill will double the corn crop. Care must be taken to cover the bran, before dropping the corn, or the fermentation will kill the seed if in direct contact with the bran. It is said to be equally valuable upon wheat. The matter is worth experimenting upon. It is hoped that those who try it will give us the details, for the benefit of our readers.

CLOVER-SOWING MACHINE—VERY SIMPLE.—Much of the clover upon the James-River plantations, is sown by a very cheap, simple contrivance of a box, made of thin, light wood, four inches deep, three and three quarters wide, and thirteen feet long, divided into thirteen equal parts, with

twenty-six half-inch holes through the bottom, six inches apart; that is, two in each division. Over these holes, tack a piece of tin, through which make a hole, about three sixteenths of an inch, larger or smaller, until it is found by experiment, that it will sow just the quantity per acre that you desire. This implement is carried by a strap, around a man's neck, who shakes it as he walks, and sows a bed 15 feet wide. It appears to be not only a labor-saving implement, but a crop-increasing one.

WIRE FENCES.

We have so many enquiries addressed to us on the subject of wire fences, that we find it necessary to answer in a brief article. They possess several prominent advantages—economy of room, economy in expense, economy in repair, durability, and tastefulness. Wherever timber is not absolutely without value, a wire fence is cheaper than the commonest zig-zag, or Virginia-worm fence. It costs less than laying a stone wall, even if the stones were hauled gratuitously. The expense of keeping in repair is less than that of any hedge fence or wall, unless the latter is of the most massive kind, and it occupies, comparatively, no room.

The durability of annealed wire, will probably equal that of any posts, though this fact has not yet been fully tested. Our belief, however, is, that it will last from 25 to 40 years, if annealed, and not exposed to the influence of salt spray, near the Atlantic coast. To obviate rusting in such situations, it may be covered with coal tar, or any of the cheaper kinds of paint. Galvanising adds two and a half cents per pound, without materially increasing its durability. Annealing is believed to be all that is required, to prevent injurious corrosion.

To answer the numerous enquiries for the cost, weight, and sizes of wire, annealed and properly prepared for fences, we append the following table, published in the last volume of our paper.

Class of wire.	Diameter in hundredths of an inch.	Weight per lineal rod.	Weight per lineal mile.	Retail prices per pound.
No. 1	0.32	4 lbs. 2 oz.	1321 lbs.	$0.09 cts.
2	0.30	3 " 10 "	1166 "	0.09 "
3	0.27	2 " 15 "	944 "	0.09 "
4	0.25	2 " 8 "	809 "	0.09 "
5	0.24	2 " 5 "	746 "	0.09 "
6	0.22	1 " 15 "	627 "	0.09 "
7	0.20	1 " 9 "	518 "	0.10 "
8	0.18	1 " 4 "	419 "	0.10 "
9	0.16	1 " 0 "	331 "	0.10 "
10	0 15	0 " 14 "	291 "	0.11 "
11	0.13	0 " 10 "	219 "	0.11 "
12	0.12	0 " 9 "	186 "	0.11½ "
13	0.10	0 " 6 "	129 "	0.12½ "

From 25 to 40 per cent. will be discounted from the foregoing prices, according to the quantity, when purchased by the coil.

We reiterate an important fact, mentioned in a recent number of the Agriculturist. The linked ends of the wire should be bent while hot, although previously annealed; but as this is required only where attached to the post, it takes but a moment of time, and it can be easily done, by having a small quantity of ignited charcoal in a light, portable furnace, or any small, iron kettle, in the field where required.

The sizes of the wire, their space, and the distance between the posts, should depend on the class of animals to be controlled. No. 6 wire will fence against cattle, horses, or swine; and sometimes wire as small as Nos. 8 or 9, is used. Nos. 10 to 12 are sufficient to restrain sheep, or the young of any animals. If the wire is properly stretched, posts may be at the distance of 100 feet; but some place them within 20 feet of each other. We cannot give advice as to the exact distances to place the posts. Every person putting up a wire fence, must be his own judge as to this matter, as there are so many different circumstances to be taken into consideration, where the fence is to be put up. It may be fastened to each post, or not, but should be firmly secured at each end. For an ingenius way of doing so, see Col. Capron's plan, as detailed on page 255 and 256, of our eighth volume; and for additional information on wire fences, see preceding volumes.

LIME AND PLASTER AS MANURE.

J. D. H., of Ulster county, has, for several years, used a mixture of lime and plaster of Paris on his corn fields, with the happiest results. He thoroughly mixes equal quantities of lime and plaster, and applies a large, table-spoonful of the compound to each hill of corn, immediately after planting. Thus the composition becomes partly incorporated with the soil, before the corn makes its appearance The good effect of this application is visible through every stage of the corn's progress; and the crop comes to maturity several days sooner than it would without the application.

J. D. H. gives his corn a second application of plaster at the time its sets, (the ears,) are forming, and is careful to sprinkle the plaster on the sets, and the adjacent parts. I am of opinion that the practice is a very good one, as both are good fertilisers. G.

—

We think the beneficial effects of the above application, for the first season, is almost exclusively due to the plaster. The lime will be principally felt in the subsequent crops.

A New Fertilizer.—The Hon. Henry A. Wise, of Virginia, informs us that he has discovered a new means of adding fertility to his land, in the use of sea sand. To one load of fresh stable manure, he adds three loads of sand, from the very surface of the beach, between high and low water marks; with this he covers the pile of manure, a few inches deep. The salt prevents fermentation in the heap; the sand contains considerable fertilising property within it, from the shells, animalculæ, and sea weed. He finds a load of this mixture to be far more valuable than a load of manure alone. It is an experiment so easily tried by all sea-side farmers, that we commend it to their notice. Salt muck is still more valuable.

BISCAYAN MODE OF CULTIVATING ASPARAGUS.

THE Biscayan mode of cultivating asparagus, as detailed in the Gardeners' Chronicle, is to form beds about 5 feet in width, and of any convenient length, and to sow the seed in March in two drills, 2 inches in depth, and 18 inches from the alleys; thus leaving a space of 2 feet between the drills. When the seedlings are about 6 in. in height, they are thinned to something more than a foot apart. Water is conducted once a-day among the alleys and over the beds, so as to give these seedlings an abundant and constant supply of fluid during the season of their growth. This is the cultivation during the first year.

The second year, in March, the beds are covered 3 or 4 inches in thickness with town sewerage, which remains on them during the summer, and which is lightly dug in during the succeeding autumn; the irrigation being continued as during the first season. In the third spring after sowing, the asparagus is fit for cutting, all its energies being doubtless developed by the manure being dug in, the autumn of the second year; and when it does begin to sprout, it finds its roots in contact with soil of inexhaustible fertility. Previously, however, to the cutting, each bed is covered, in March, very lightly with dead leaves, to the depth of about 8 inches. The cutting does not commence till the plants peep through this covering, when it is carefully removed from the stems, in order that the finest only may be cut, which are rendered white by the leafy covering, and succulent by the excessive richness of the soil.

In the autumn of the third year after the first cutting, the leaves are removed, and the beds are again dressed with town sewerage, and these operations are repeated annually. In addition to this, the asparagus ground is so situated that the beds are half under salt water at spring tides.

PROFITABLE FARMING.

AMONG a thousand instances of successful farming that might be named, is that of Mr. C. P. Holcomb, of Newcastle, who purchased about 320 acres of land, three miles from Dover, some seven years ago, for $2,400. Mr. Holcomb's farmer says, that when he took possession of the place, he could not find hay or straw enough upon it to make a hen's nest, but had to resort to the old field to gather poverty grass for that purpose.

This place had been carried on by hired labor, the owner living upon another farm, some 30 miles off. And yet, by a judicious expenditure for lime, and proper system of crops, the value of it has been raised to $6,000, besides paying all expenses, and leaving a surplus of profits. It is now in a condition to continue to be profitable; and yet the former owner could not support his family upon the place. If you would know the reason, it is this—he cultivated the land just as his father did before him; with a little, mean, one-horse plow, with which he scratched the surface about two inches deep, or less, and planted corn after corn, without manure (for how could he make manure with such farming?) until he had skinned everything off the surface, and really thought that the land was "worn out." The present owner has been well known as a Philadelphia lawyer—perhaps it was his legal skill that enabled him to "take the kinks out" of this knotty case.

EATING HORSE MANURE.

C. D. M., of Pennsylvania, asks what is the best remedy to prevent horned cattle from eating horse manure; and what it is that induces them to eat it?

We think there are several reasons why cattle and sheep eat horse manure. First, hunger. Second, the salts with which it is impregnated. This would be remedied by giving them salt, ashes, sulphur, &c. Third, the horse imperfectly digests much of his food, and just that part which his stomach has omitted to fit for appropriation in his system, is thrown out in his feces, and is probably better fitted for the horned beast or sheep.

Every person of observation has noted the successive cropping of various plants, yielded in an old pasture. One class of these is eaten by the horse, another by cattle, and still a more numerous variety by sheep. The same preferences are manifested by them for the forage when cured; and the animal taste is a tolerably correct index of what is best suited to their constitutional wants, which vary according to the season, habits, food, health, and other circumstances.

If the cattle have all the condiments, (salt, &c.,) they require, and an abundance of good and appropriate food, we think they may be permitted to nibble at the heap of horse manure with entire impunity.

GEORGIA FARMING.

THE present year, I concluded to plant less cotton and cultivate it better; so, instead of 260 acres, as usual, I only cultivated 120. I find, now, I have done much better than I ever did before; for I have made 25 bales more cotton, this year, on the 120 acres, than formerly on the 260 acres.

In addition to this, I have the greatest plenty of corn, and have now over 1,000 bushels of sweet potatoes left, after feeding my hogs on them for the last two months. J. B.

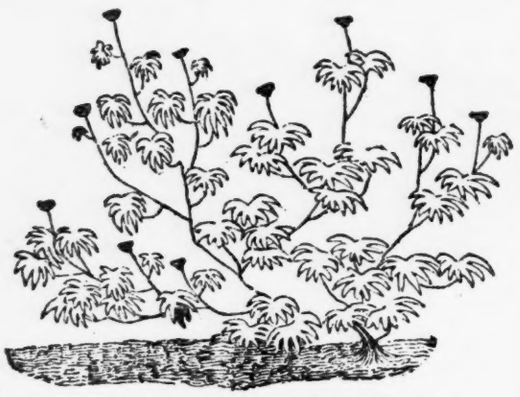
Hancock Co., Ga., Dec. 29th, 1849.

IMPROVEMENT IN SUGAR MAKING IN THE ISLAND OF CUBA.—By the Havana papers, we learn that several planters on the island have recently made experiments with the bi-sulphate of lime, recommended by Mr. Melsens in the improvement of sugar making. They were in all cases most satisfactory. The "Faro" says that Mr. M has established a well-founded claim on the gratitude of the Cuban planters, by his disinterestedness in making known his *modus operandi*, and suggests that a gratuity of $100,000 be awarded him by subscription—or rather hogsheads of sugar to that amount, prepared according to his invention.

THE CASTOR BEAN.

THE castor bean, or palma christi, (*Ricinus communis,*) is indigenous to South America and the West Indies, but has long been cultivated in the southern part of Europe. It has for many years occupied a share of the attention of some of the farmers in the western states, south of lat. 40°. It has been raised with advantage as far north as New Jersey, and it will grow in the most northerly states of the Union, where it is often raised as an ornamental plant.

It requires a rich, loamy soil, well pulverised by deep plowing and harrowing. It is planted like Indian corn, when all danger of frost is removed, in rows six feet apart, and hills four feet distant from each other. The cultivation is performed with the hoe, plow, or cultivator, till the plant has attained a height of two feet, or more, so as to shade the ground and prevent the growth of weeds. The young plant is greedily devoured by the cut worm, and as it is important to have the full season to mature it, where there is danger from this source, it is better to plant thickly, say 8 to 12 seeds in a hill, and then thin out to two, after all danger is removed. Some allow but a single plant to remain in the hill, and think they secure a greater yield of seed,



CASTOR BEAN.—FIG. 25.

than if more were left. The harvesting commences as soon as the pods begin to ripen, which, near the Ohio River, is about the middle of August. A kind of jumper, or light sled, with a horse attached, is used to pass between the rows, and receive the ripened pods as they are cut from the branches with a sharp knife. These are placed upon a smooth piece of ground, on one side of the field, frequently termed the *popping ground.* When thus fully exposed to the sun, the pods contract and burst, often shooting out the seed to a distance of several feet. As the season advances, the crop continues rapidly to mature, and it is gathered till the frost effectually prevents any further growth.

The plant is utterly worthless except for its seed, which it produces at the rate of about 15 bushels per acre, though 30 are sometimes raised, worth about $1 per bushel, on the farm. After *popping*, the seed only requires to be run through a fanning machine, to separate the dirt and chaff, when it is ready for market or use.

The oil is extracted by crushing and *cold pressing*, which gives nearly a gallon of the best oil for each bushel of seed; or the seed is boiled, either raw or after slightly roasting, and the oil is skimmed off as it rises to the surface. This yields a greater quantity of oil than cold pressing, but is of decidedly inferior quality.

The oil has been recently used for combustion, after separating it into olein for lamps, and stearin, for candles. The quantity imported into Great Britain, in 1835, was 1,109,307 lbs., of which 670,000 was consumed, the remainder having been re-exported.

A company has lately erected a mill in Cincinnati, Ohio, for manufacturing castor oil in the most economical and approved manner. It is to be hoped that this will stimulate the production of the castor bean, far beyond what it has ever before reached in this country, and that it may soon become one of our important articles of export, besides fully supplying the home market. The present price of castor beans, in that market, is $2 per bushel.

FARMING IN MISSOURI.

WHEN I first settled here, I imitated others. Sometimes this did well enough; at other times I found it was all wrong. I then began to make little innovations, such as plowing as deep as my team could pull the plow—provided I had what I supposed to be a sufficiency of soil—hauling out all the rubbish I could collect about my stable and cowyard, plowing in my wheat, after having given my ground from one to three plowings and harrowings before seeding, breaking up corn land twice before planting, &c. Now, will you believe it? I have been, and am still, laughed at for all this. But I could not make good crops without it. The truth is, to make a good crop of anything, I have to work.

Since reading your paper, resources have presented themselves, of which I never should have thought. It is only three miles from my farm to town. The tanner will give me all his bark and leather shavings, the saddlers and shoemakers will give me their shavings, the proprietors of steam mills will give me their ashes, which contain a considerable quantity of charcoal; then there are livery and other stables, and many other resources, all of which I can resort to, free of charge. At home, I have an excellent limestone quarry, in the centre of my farm, which I have opened and worked considerably; and I last year spread a quantity of lime on one of my worn-out patches of ground. I have a pit walled, and always ready.

These, I find, from reading your paper, are all elements of fertility, if I only knew how to manage them. I shall begin my operations by turning in clover and buckwheat, and bring in the other helps as I learn how to do it. To all this, I may add, that you have pointed out modes of doing work on a farm, that I have never seen practised, but which, I feel confident, are better adapted to success, than those we follow here. Your management of meadow lands and wheat, is surely good.

The past was a bad season, in this section, for corn and wheat. I never performed such a season's work for corn, and I raised a tolerably

fair crop, under the circumstances. One of our papers makes the following notice of it:—

"*Large Corn.*—We have been shown some specimens of corn, which, for length and weight, considering that the ears were raised from a field that fails about four, out of every five seasons, surpasses anything of the kind we have yet seen. The corn comes from the farm of Mr. Oglesby, residing two or three miles from this city, and the following is the measurement:—The first 18 ears weighed 28 lbs. A single ear measured 10½ inches in circumference; containing 28 rows, and 1,512 grains of corn. Twelve other ears measured 12 ft. 5 in. This, taken all together, excels any corn we have yet heard of; and we invite our farming friends to bring in their specimens and beat it! This is but another of the thousand instances of the fertility of the soil of this country, and its adaptation to the growth of all kinds of produce."

This corn was not raised on my farm, but on a field which I rented, a mile and a half from home. It contained 20 acres of what is called here bottom prairie; a low, cold, wet, dead, sticky soil, adhering to the feet when a little wet, almost like tar. I had my own fun, though I worked hard. It was confidently and exultingly predicted, that though I could raise corn on my poor hills, by putting on them the labor I did, yet that pond would "bog" me. The season was extremely wet throughout. Many acres, in the same bottom, and on higher ground, were totally lost —drowned. Weeds and grass sprang up, and grew at an unprecedented rate, putting their enemies, (plows, horses, and drivers,) to flight. They gave it up, and surrendered. URBANE B. OGLESBY.

Boonville, Mo., Dec. 17th, 1849.

THE CANADA LYNX, OR BIG, GREY WILD CAT.

THE Canada lynx, (*Lyncus borealis*,) which has often been confounded with the common wild cat, (*L. rufus*,) and the wolverene, (*Gulo luscus*,) according to Audubon and Bachman, is more retired in its habits than the former, keeping chiefly far from the habitations of even the settlers who first penetrate into the depths of the wilderness. Its beautiful, fine, long fur, so much used for collars, muffs, &c., enables it to withstand the cold of our northern winters, both in the wooded countries north of the great lakes, and certainly as far south as the mountains of Pennsylvania, dispersed over many degrees of longitude, even occasionally approaching the sea coast. It exists in Labrador, the Canadas, and on the Mackenzie River as far north as 66°. It still occurs, although sparingly, in several of the New-England states.

The Canada lynx, like all other animals of its general habits, breeds but once a-year, usually producing but two young at a birth, though rarely three whelps are littered at a time. The full-grown animal measures a little over three feet from the point of the nose to the root of the tail, and the length of the tail to the end of the hair, is about six inches more. The weight will vary from 15 to 25 lbs. Its food consists of several species of grouse and other birds, the northern hare, grey rabbit, chipping squirrel, and other small quadrupeds, occasionally attacking and devouring deer, sheep, lambs, poultry, and pigs. It is said, also, to pounce upon the wild goose, at its breeding places, and destroy the wild turkey while on her nest.

When alarmed, or when pursued, the Canada lynx leaps or bounds rapidly in a straight direction from the danger; and takes to a tree, if hard pressed by dogs. It is very strong, and possessing remarkably large and powerful fore legs and claws, is able to climb trees of any size, and can leap from a considerable height to the ground without feeling the jar, alighting on all four feet at the same instant, ready for battle or flight. If dislodged from a tree by the hunter, it is instantly surrounded by the dogs, in which case it strikes with its sharp claws and severely bites. It has been stated "that it never attacks man," which remark, as a general rule,

THE CANADA LYNX.—FIG. 26.

is applicable to most of our beasts of prey; but this is a mistake, as an instance is fresh in our recollection of a young man, about seven miles west of Exeter, New Hampshire, who was attacked a few years ago by one of these animals, and had his clothes nearly torn from him, and probably would have been greatly injured, had not his brother, who was near by, seasonably killed the lynx by striking him with the pole of an axe. For several years preceding, a considerable havoc had been made in the neighborhood amongst the sheep, poultry, and lambs, which was generally attributed to foxes and dogs.

It is stated that this animal is usually captured by the northern hunters in steel traps, such as are used for the beaver and otter, into which it very readily enters.

The Canada lynx swims well, and it is said that it will cross the arm of a lake two miles wide—a habit which is also shared by its more southern and mischievous congener, the common wild cat, which will particularly be considered in our next.

HOME-DEPARTMENT AGRICULTURAL REPORT.

It gives us much pleasure to state, that our old friend, Dr. Lee, has been appointed to make up the Agricultural Report of the Home Department. He has been favorably known for sometime past as the editor of the Genesee Farmer and Southern Cultivator, and from his intimate acquaintance with agriculture, we shall expect to see an able and reliable report from him. The following is his Circular:—

To favor this undertaking, I respectfully solicit informmation on all topics appropriate for such a document, and particularly in reference to the inland commerce of the country. The movement of agricultural products on lakes, rivers, canals, and railways, is a subject of interest to all intelligent farmers and business men.

Crude guessing in regard to the quantity of grain and other crops grown in the current year, can possess but little value a few months in advance of the U. S. census, so soon to be taken. Improvement in the practice, and progress in the science of agriculture are objects of great moment at this particular time. The public mind is now more engaged in the work of improving lands, and educating young men not less thoroughly to be farmers than doctors or lawyers are professionally educated, than at any earlier period. Thousands begin to appreciate the fact, that, no limited piece of earth can possibly contain an unlimited quantity of the atoms necessary to form good crops of grain, cotton, tobacco, or potatoes. The elements of bread and meat in any given soil or field being quite limited, the waste of these elements, when extended over many millions of acres, becomes a matter of paramount national importance. That the quantity of atoms in every cubic foot of soil, or earth, which can be transformed into wheat, is uniform or alike in all cases, no observing farmer can for a moment believe. If this were the case, then all soils would be alike productive of this valuable crop.

Different soils of varying fertility, possess equally varying amounts of the available constituents of all cultivated plants. If the supply of raw material for making all crops is really inexhaustible, why should any man ever be at the trouble and expense of hauling manure, or of purchasing lime, ashes, gypsum, or guano? The use of fertilisers tells the whole story—that the elements of bread and meat may be used up—wasted—utterly lost to the husbandman and the world. How much has been lost to the country since the begining of the present century? Who can tell?

Great complaint is made by persons belonging to the American navy of the defective manner in which beef, pork, and butter are put up for consumption in tropical climates in this country. The navies of European nations are supplied with these perishable commodities in a condition to keep under the equator much longer and better than similar articles made in the United States. This defect is not creditable to American skill in curing meat, butter, and cheese. Nor is the preservation of breadstuffs so generally understood as is desirable.

Information on these and other subjects is sought not only at home, but from foreign nations with whom we have commercial and diplomatic intercourse. The collection and diffusion of useful knowledge in the cheapest possible form, are labors in which many can participate.

Should not the young men of America be reminded of their duty in this connection? Look on the broad surface of the Union, and mark the millions of acres of native forests which have fallen and disappeared at the approach of the woodman and his axe. The continued toil of the farmer has dug from the virgin earth nearly the whole wealth of the country. If no damage had been done to the lands under cultivation, our admiration of the industry, enterprise, and success with which they have been plowed, hoed, and harvested, would be unmingled with regret. But unfortunately, many millions of acres of American soil have suffered incalculable, if not irreparable injury. The economical renovation of partially-exhausted fields; and the cheap improvement of all farming lands that need it, are objects to which much time and study may be profitably devoted. DANIEL LEE.

Washington, Dec., 1849.

NOVEL METHOD OF GRAFTING.

I HAVE no wish to detract from the merit or credit of any man; but that "novel method of grafting," referred to by your correspondent from Mississippi, was practised by one of the oldest nurserymen in this state, from whom I learned the "art and mystery," some years since. It was termed "side grafting." When there is a deficiency of limbs, this "novel method" will answer to supply their place; but it will never make a good tree. They will be what is termed "lop-sided."

JACOB HEWES.

Leipersville, Delaware Co., Pa.

OYSTER-SHELL LIME.—The question is often asked, whether this is as good as stone lime for land. Who can answer? Another question. If oyster shells were ground when first opened, instead of burnt, would they not be more valuable to the land than after burning? They certainly contain a portion of animal matter, that is burnt out in making them into quicklime. This must have some fertilising properties, but whether to an extent sufficient to pay for grinding, is a question worthy of consideration. Let the matter be discussed. INQUIRER.

GUANO—ITS EFFECTS.—Mr. Edward Harris, of Moorestown, New Jersey, in October last, sowed 400 lbs. of guano and two bushels of plaster to the acre, upon a piece of clayey-loam land; oat stuble turned under, which he harrowed in, and then sowed grass seed and harrowed in. On the 15th of November, he found it necessary to mow off the oats, for fear they would smother the grass, so rank they had grown from the effects of the guano and plaster.

Ladies' Department.

CHAMBER BIRDS.—No. 4.

CANARIES MAY BE TAUGHT TO FLY; but the trouble and risk are so great that it is hardly worth the time and care necessary to teach them. The male is first allowed its liberty in a place where there are trees, and the female is hung at a window near by, which speedily attracts him back to the cage in case of danger or fatigue. This teaching must be continued for five or six days, but no handling nor violent attempts to catch them should be used.

DISEASES OF CANARIES.—These birds, in a state of captivity, seldom enjoying the open air and having but little exercise, are subject to most of the maladies peculiar to the domestic, feathered race. The diseases to which they are particularly liable, may be discribed and treated as follows:—

1. *Rupture.*—This is a common malady, especially in young birds, and is a kind of indigestion which causes inflammation of the intestines. The symptoms of this disease are a lean, transparent, blown-up body, full of small red veins, and in which all the intestines seem to have fallen to the lower part of the body, where they become entangled and turned black. Too much nutritious food is the cause of this evil. All remedies appear to have been ineffectual in this malady, but aisistance is sometimes obtained from a spare and simple diet.

2. *The Yellow Gall in the Head and Eyes* may be cured by refreshing food; but if there be a tubercle of the size of a hemp seed about the head or eyes, it must be cut off, and the wound anointed with fresh butter.

3. *Sweating.*—Some females, whilst hatching, have a sweating sickness, which is injurious to the blood, and may be detected by the feathers of the lower part of the body being quite wet. The body of the bird should be washed with brine, and afterwards with rain or spring water to free the feathers of salt, and then rapidly dried by the sun or fire. This may be repeated once or twice a-day. This sickness, however, is not so prejudicial to the bird as is generally supposed.

4. *Sneezing.*—This is occasioned by a stoppage of the nostrils, and may be removed by a very small feather being passed through them.

5. *Loss of Voice.*—If the male, after moulting, lose his voice, he must have diet similar to that given to young birds; that is, some thoroughly-baked, stale roll, dipped in boiled milk or water until completely saturated; then press out the milk and mix it with more or less, say a proportion of two thirds of coarse barley or wheat flour, freed from the husk, or bran. Some persons give them a slice of pork or bacon to peck.

6. *Constipation* is cured by giving them plenty of green food, such as water cresses, chickweed, sallad, &c.

7. *Epilepsy* is commonly brought on by too great a delicacy of treatment, and also by timidity, from alarm. Too great an abundance of rich food, and the want of proper exersise, whereby much and thick blood is produced, are the chief causes of this disease. The birds ought to be kept free from alarm, either by catching or tormenting them in any way. When suffering under this complaint, if they are hot, it is recommended to dip them frequently into cold ice water, and then pare their nails so closely as to start blood. A few drops of olive oil, also, given internally have proved serviceable.

8. *Overgrown Claws or Beaks* require to be pared with sharp scissors. Care must be taken, however, not to cut the nails too close, as the birds would be liable to lose so much blood as to become lame. The end of the "red ray," or vein, both in the beak and claws, when held up to the light, show exactly how far they may be cut. During the hatching period, also, the nails of the female sometimes must be cut, in order that they may not be caught by them when in the nest.

9. *Lice* may be avoided by frequent bathing, cleanliness in the cage, and dry sand mixed with aniseed and scattered on the floor.—*Americanized from the German.*

PUMPKIN PIES.

By a Yankee Girl.—Select a fine-grained, marrow squash, cut it up and boil in as little water as possible. When it is perfectly cooked, strain off all the watery part, then pass the squash through a sieve or colander. Add to one pint of the squash one quart of new milk, four well-beaten eggs, and sugar, cinnamon, ginger, nutmeg, and salt to suit the taste.

The paste is made of lard, butter, *cold water*, and flour, well mixed. As we never *weigh* nor *measure* the ingredients, it is difficult to state the exact proportions, but with a little Yankee guessing to assist, I think the pies will come out about right.

All we can say to the above recipe of our fair correspondent is, that we have often had a taste of her pies, and found them the most delicious and luscious of the whole pumpkin family of Yankeedom.

LATE RASPBERRIES.—These were picked from bushes growing in an open garden, without protection, in the vicinity of this city, on the last of November. They were the ever-bearing kind, described at length in the first volume of the Agriculturist. They usually ripen from July till October; but owing to the mild weather of November, the past year, they produced several weeks later than common. They were cultivated by a lady who raises much other choice fruit, and is one of the most skillful gardeners we know of.

TO KEEP MOTHS FROM WOOLEN CLOTHING, CARPETS, AND FURS.—Place the articles in linen sheets, or bags, sewed closely together, first beating them, so as to clear off all moths and eggs. Camphor or tobacco, scattered through light trunks, where they are packed, is also a protection.

CAUTION.—Do not inhale the smoke of matches while ignited. It is highly poisonous.

Foreign Agricultural News.

We are in receipt of our foreign journals per steamer Canada, to 29th December.

Markets.—*Ashes* dull. *Cotton* an advance of ¼*d.* per lb. This makes an advance, altogether, for the past twelve months, of 2¼*d.*—about equal to 4½ cts. of our money. *Flour* of the lower qualities of canal, in active demand. *Rice*, 40,000 bags were purchased in London on speculation, causing considerable excitement in the market. *Wool*, 26,000 bales were recently sold at an advance. This article is from 2 to 4 cts. per lb. higher than it was last September.

Money very abundant at 2 to 3 per cent., with an increased amount of bullion in the Bank of England.

Poultry Show at Birmingham.—A large show of all kinds of domestic fowls, recently took place at Birmingham. It was numerously attended, from many parts of the kingdom, and about $250 were distributed, in small amounts, as prizes. The long-lost "shackbags" are said to have been re-introduced from Asia.

Ink for Zinc Labels.—The best ink for zinc labels is a rather weak solution of chloride of platinum or gold, mixed with a little gum Arabic, to prevent it running too freely in the pen.—*Gardeners' Chronicle.*

Farmers of Some Consideration in France.—We notice that when General d'Hautpoul, chief of the new ministry lately installed in France, first addressed the Legislative Assembly in regard to the measures the government would pursue, he stated that they would place the improvement of agriculture, and the protection of the interests of the farmer and labor in the *first rank* of their duties.

Apple Waste, or Pomace.—We have no analysis, but believe it to be rich in mineral matter. It is very difficult of decomposition. It rots very slowly, and therefore is of but little use as manure. The decay of it might be hastened by using it in compost with some rapidly-decaying substance, as horse dung; and then it would no doubt exhibit whatever useful properties it has.—*Ag. Gazette.*

A Prolific and Profitable Hen.—A hen of mine, of the half-bred game variety, has hatched off four clutches of chickens in the year, and brought up 51 of them. Thirty-six have been sold at 1*s.* 6*d.* each; three are now up fatting on barley meal and milk; the remaining brood, twelve, are three fourths grown. The produce of this hen in the twelve months is worth £3 10*s.* She has laid eggs besides, almost sufficient to pay for her own picking.—*Farmers' Herald.*

Extraordinary Yield of Barley from Spade Culture.—One of my neighbors has a small piece of ground in tillage, one half of which is generally in potatoes, and the other in corn, which half has grown barley this year, and produced a crop equal to eighty-eight bushels the acre. The land was dug over last autumn, and then sown in April, very thin. I recollect it looked very thin after coming up, but tillered very much afterwards, and made a rank crop—of course, the land is first rate.—*Farmers' Herald.*

Saltpetre Poisonous to Pigs.—It is well known that saltpetre has the valuable property of removing the taint of turnip taste from butter; and a small quantity put into the churn with the cream renders the butter sweet and pleasant. In one case, the butter from one cow was made twice a-week; and to this quantity about a teaspoonful of saltpetre was added, and the buttermilk given to the pigs. It was observed that the pigs, (about two months old,) after drinking the buttermilk, were very uncomfortable, and as little notice was taken of the affair, they got over it as best they might. However, it was not so on the next day of churning; for both pigs were taken violently ill, vomiting and purging; and when all hopes of saving their lives were gone, they were put out of pain by killing.—*Farmer's Herald.*

Treatment of Fruit Trees Disposed to Canker.—Around all those trees which are manageable for size, and free from disease, a trench is taken out at such distance from the stem as may be judged by the branches sufficient to the preserving all the radicals, so deep as to get them undermined, and the soil carefully separated from the fibres, and thereby of no avail to the tree. The pit being again prepared, and made up to within nine or ten inches from the surface, fill with a layer of well-decomposed dung, mixed with the soil of the border, and next a layer of leaf soil, upon which the roots should be laid out as in training the shoots upon a wall; this being done, cover with another layer of rotton leaves, and above another layer of rotton dung, then water well, so as to fix the soil round the roots; when settled, finish with the soil from the border—a mulching of straw or dung in frosty weather will be requisite, till the roots again take with the soil. The process of transplanting should be repeated as the appearance of the tree would justify.—*Ibid.*

Successful Transplanting a Large Cedar in 1386.—This operation took place when I was gardener at Durham Park. The tree stood in front of a new conservatory that was being built; it was 30 years old, 20 feet high, 2 feet in circumference, at one foot from the ground, and 48 feet round the extremities of the branches. I cut the roots all round to the very bottom, 4 feet from the stem, in April, in order to cause it to produce young fibres to support the ball, as well as to secure the life of the tree. In the following November it had made roots 6 in. long; but I am now of opinion that before large trees are moved, the whole of the large roots should be cut two years previous to lifting. The next point is to make a puddle for planting; this ought to be so thick that the ball will make its way slowly to the bottom of it; then guard against high winds. The most effective way of doing this, perhaps, is to join cross pieces of wood, enclosing the stem, and to drive down a post at each end of such pieces, 3 or 4 feet into the solid earth, nailing their tops firmly to the cross pieces just mentioned. If this is properly done, no wind will overturn the tree.—*Correspondent to Gard. Chron.*

Smithfield Show of Fat Cattle.—This began on the 11th of December, and continued four days. The animals exhibited were not quite so great monstrosities of fat as heretofore, which is an improvement. An animal may be *over* as well as *under*fatted; and the English have heretofore, at such shows, greatly erred, in creating monstrous mountains of fat, instead of lean, tender, juicy, and well-marbled meat. The report of the London Agricultural Gazette says—Mr. Jones, from Huntingdonshire, took the first prize, on a four-year old Hereford ox. The bulk of the carcass formed the very proper size of containing the greatest weight in the least possible compass, and that without destroying the necessary symmetry, either by an overgrown coarseness, or a puny diminution. The girth measured 9 ft. 4 in., and the length 5 ft. 4 in. Beyond all exception, the length of the body was uniformly covered with useful flesh, and not in lumpy fatness, but in a regular covering, from the shoulder to the tail. The only defect, and that not a large one, was the bareness of the upper fore point of the shoulder, which appeared more visible, owing to the very great superiority of all other points. The ribs, fore and middle, were covered in the thickness of inches, and the hock bone was completely hidden. We think the show never at any time exhibited a better, and very seldom an equal, animal to the one now mentioned.

Editors' Table.

To Correspondents.—Whoever writes us a good article of a page or more in length, shall be entitled to the Agriculturist one year gratis. All articles required to be inserted in a particular number, should be sent one month in advance.

Mr. Solon Robinson is now in the vicinity of Charleston, South Carolina, where he can be addressed.

Erratum.—By some inadvertency, we overlooked an error in the article on Dwarf Pears, at p. 18 in our January number. Instead of $26.60, it should have read $266. It is thought that this additional item would be covered by the proceeds of the crop, before the end of the tenth year.

The English-Farmer's Herald for December, copies a half page from the Agriculturist without credit. The article is entitled, "Potash for Agricultural Purposes from Granite."

Large Hog.—The Westminster Carrolltonian says, there was a hog exhibited in that place, last week, which weighed 1,400 lbs. The same paper says, a potato raised by John Wadlow, of Freedom district, measured 17 inches in circumference, and weighed 1 lb. 3 oz.

Dr. Lardner's Popular Lectures on Science and Art, in 2 vols., octavo. New York: Greeley & McElrath, 1849. This work embraces numerous lectures on almost every topic of a scientific and practical character, a part of which were delivered throughout the principal cities and towns of the United States, a few years since. The work embraces all the information embodied in those lectures, with copious additions of discoveries and improvements to the present time. Few writers possess a firmer grasp on the leading principles of science and art than Dr. Lardner, or can present them in a more popular and comprehensive form. These volumes must continue to have, as heretofore, a wide-spread popularity.

Audubon's Quadrupeds of America.—Part second of this valuable and interesting publication is received, and like the preceding, is handsomely illustrated. Besides its merits as an entertaining work for general reading, for old and young, it will be found a standard reference for the subject treated, and deserving a niche in every gentleman's library. *It is of material value to the Farmer*, as it treats of the habits and modes of capture of many animals peculiarly injurious to crops, such as squirrels, moles, rats, mice, woodchucks, &c.; or those larger predatory animals, destructive to poultry and flocks, as the fox, wolves, wild cats, &c., both of which classes are fully noticed in those portions of the work already issued. It is for sale by V. G. Audubon, 43 Beaver street, New York.

Good Cows.—Under this head, we copied an article into our paper, last month, page 37, and gave credit to Mr. Skinner's periodical, "The Plow, Loom, and Anvil;" whereas, it ought to have been credited to that excellent publication, the "Cultivator," by Mr. Tucker, of Albany. We regret this error, but the fault was not ours; for we copied it as original, either from the Plow, Loom, and Anvil, or we found it in some exchange paper, credited to that work. This we recollect distinctly. We perfectly detest the practice of copying, (we call it stealing,) articles from papers without giving the proper credit; and whenever anything of the kind is found in our paper, we shall feel quite obliged by having it pointed out to us for correction. And while on this subject, we will add, that no paper suffers more than ours, in the way of pillaging. Scores of articles are constantly *stolen* from it without credit, and sometimes, when we take the liberty of pointing this malpractice out to the offending parties, they have the impudence to take offence, and heap abuse upon us, instead of acknowledging their fault, and making an honorable amend.

Ewbank's Hydraulics and Mechanics. New York: Greeley & McElrath, 1849.—A descriptive and historical account of hydraulic and other machines for raising water, ancient and modern; with observations on various subjects connected with mechanic arts, including the progression and developement of the steam engine, with descriptions of every variety of bellows, pistons, rotary pumps, fire engines, water rams, &c., &c.

This is a valuable octavo, of over 600 pages, written by an experienced and scientific gentleman, now appropriately placed at the head of the Patent Office, at Washington. The work has had an extensive sale, and is worthy a place on the shelves of every well-selected library. The subjects treated are entirely of a practical character, and are considered with a full reference to the latest and most improved information to the present time.

Dutchess-County Agricultural Society.—The president, Mr. Dubois, has issued a circular, proposing to hold, during the winter, in different sections of the county, several meetings, under the auspices of the Dutchess-County Agricultural Society, for the purpose of discussing agricultural subjects, and for exchanging views upon topics of importance to practical farmers. The first meeting will be held at the house of S. Tomlinson, Washington Hollow. The subject for discussion at that meeting, will be Indian corn—its most valuable varieties for general production—best mode of cultivation—most suitable manure, &c. Members are requested to be present; also, farmers who are not members, are particularly invited to attend, and assist in elucidating this important subject. It is desirable, for the purpose of comparison, that a few ears of corn should be brought by each farmer, as specimens of his crop.

High Farming.—Col. H. Capron, of Laurel Factory, Maryland, it appears has taken the lead the past season among the farmers of Prince George's county, in the cultivation of wheat, Indian corn, and several other crops. Annexed is the substance of his methods of cultivating wheat and corn, as furnished by himself, and published in the American Farmer: A field of 59½ acres, from which was taken 5 acres of corn, is partly low, alluvial ground, reclaimed by draining from a wet marsh, and partly upland old fields, improved by manuring and deep plowing. The field had been in grass for several years, and was plowed up deeply the fall before. The upland was manured before plowing, with stable manure. Last spring, it was well harrowed, cross-plowed, harrowed again thoroughly, and rolled—covered with 100 bushels of ashes per acre, and planted in drills 5 feet apart, dropping 24 in. with a corn planter. As soon as the corn made its appearance, the two-horse harrow was started, with the centre tooth out, running with the rows, and followed by the corn rake—raking right and left through the corn. The cultivators were then started and kept going until laid by—followed, after the second working, by the hoes. The corn was planted from the 24th of April to the 2d of May. The yield was on one acre 91⅛ bushels of shelled corn; on the second, $94\frac{24}{100}$; on the third, $109\frac{56}{100}$; on the fourth, $116\frac{7}{8}$; and on the fifth, $117\frac{1}{4}$ bushels of shelled corn (yellow Oregon variety).

The product of one acre of wheat, was 39 bushels and 36 lbs. of prime wheat; of five acres, 170 bushels and 50 lbs. prime wheat, weighing 60 lbs. to the bushel. This field was a clover lay, having been previously improved with lime, ashes, and other manures—plowed in September, 1848—turning under about 300 lbs. of Peruvian guano per acre—rolled and harrowed thoroughly—seeded with white, blue-stem wheat, harrowed in with grass seed and rolled.

Review of the Market.

PRICES CURRENT IN NEW YORK, JANUARY 16, 1850.

ASHES, Pot,	℔ 100 lbs.	$6.62	@	$6.69
Pearl,	" do.	6.06	"	6.12
BALE ROPE,	" lb.	09	"	11
BARK, Quercitron,	" ton.	37.00	"	38.00
BEANS, White	" bushel.	75	"	1.25
BEESWAX, American, Yellow,	" lb.	19	"	22
BOLT ROPE,	" "	10	"	11
BONES, Ground	" bushel.	40	"	55
BRISTLES, American,	" lb.	25	"	65
BUTTER, Table,	" "	15	"	25
Shipping	" "	09	"	15
CANDLES, Mould, Tallow,	" "	10	"	13
Sperm,	" "	25	"	45
Stearine,	" "	25	"	30
CHEESE,	" "	05	"	10
COAL, Anthracite,	2,000 lbs.	5.00	"	6.00
CORDAGE, American,	" lb.	11	"	13
COTTON,	" "	10	"	15
COTTON BAGGING, Am. hemp,	" yard.	15	"	16
FEATHERS,	" lb.	30	"	40
FLAX, American	" "	08	"	09
FLOUR, Ordinary,	" bbl.	4.50	"	5.50
Fancy	" "	5.75	"	6.50
Richmond City Mills,	" "	6.50	"	6.75
Buckwheat,	" "	—	"	—
Rye,	" "	2.81	"	3.00
GRAIN—Wheat, Western,	" bushel.	95	"	1.27
" Red and Mixed,	" "	80	"	1.15
Rye,	" "	61	"	62
Corn, Northern,	" "	58	"	63
" Southern,	" "	55	"	61
Barley,	" "	64	"	67
Oats,	" "	38	"	45
GUANO, Peruvian,	2,000 lbs.	45.00	"	50.00
Patagonian,	" do.	30.00	"	35.00
HAY, in Bales,	" 100 lbs.	56	"	63
HEMP, Russia, Clean,	" ton.	195.00	"	200.00
American, Water-rotted,	" "	160.00	"	200.00
" Dew-rotted,	" "	140.00	"	175.00
HIDES, Dry Southern,	" "	08	"	09
HOPS,	" lb.	06	"	18
HORNS,	" 100.	2.00	"	10.00
LEAD, Pig,	" 100 lbs.	4.45	"	4.50
Pipes for Pumps, &c.,	" lb.	05	"	07
MEAL, Corn,	" bbl.	2.87	"	3.38
" Corn,	" hhd.	14.00	"	14.50
MOLASSES, New-Orleans,	" gallon.	25	"	30
MUSTARD, American,	" lb.	16	"	31
NAVAL STORES—Tar,	" bbl.	1.62	"	1.88
Pitch,	" "	1.25	"	1.75
Rosin,	" "	1.00	"	1.20
Turpentine,	" "	2.44	"	2.75
Spirits of Turpentine,	" gallon.	32	"	34
OIL, Linseed, American,	" "	80	"	85
Castor,	" "	1.50	"	1.80
Lard,	" "	60	"	70
OIL CAKE,	" 100 lbs.	1.25	"	1.50
PEAS, Field,	" bushel.	75	"	1.25
Black-Eyed,	" 2 "	1.37	"	1.50
PLASTER OF PARIS,	" ton.	2.00	"	2.75
Ground, in barrels of 300 lbs.		1.12	"	1.25
PROVISIONS—Beef, Mess,	℔ bbl.	8.50	"	11.00
" Prime,	" "	6.00	"	8.00
" Smoked,	" lb.	06	"	12
" Rounds, in Pickle	"	04	"	06
Pork, Mess,	℔ bbl.	10.00	"	12.00
" Prime,	" "	6.50	"	10.00
Lard,	" lb.	06	"	07
Bacon Sides, Smoked,	" "	03	"	04½
" in Pickle,	" "	03	"	04
Hams, Smoked,	" "	05	"	09
" Pickled,	" "	04	"	07
Shoulders, Smoked,	" "	04	"	06
" Pickled,	" "	03	"	05
RICE,	" 100 lbs.	2.25	"	3.62
SALT,	" sack.	90	"	1.43
" Common,	" bushel.	20	"	35
SEEDS—Clover,	" lb.	06	"	07½
Timothy,	" bushel.	2.75	"	3.50
Flax, Clean,	" "	1.55	"	1.60
" Rough,	" "	1.50	"	1.55
SODA, Ash, (80 per cent. soda,)	" lb.	03	"	—
Sulphate Soda, Ground,	" "	01	"	—
SUGAR, New-Orleans,	" "	04	"	06
SUMACH, American,	" ton.	35.00	"	37.00
TALLOW,	" lb.	07	"	08
TOBACCO,	" "	03	"	10
WHISKEY, American,	" gallon.	26	"	27
WOOLS, Saxony,	" lb.	40	"	60
Merino,	" "	35	"	40
Grade Merino,	" "	30	"	35
Common,	" "	20	"	30

NEW-YORK CATTLE MARKET.

At Market—1,500 Beeves, (500 southern, the remainder from this state,) 50 Cows and Calves, and 4,500 Sheep and Lambs.

Beef Cattle.—Prices continue firm, but about the same as last week; sales of good retailing qualities are made from 6 @ 8 cts. The market closes dull, with near 300 head in the yards left over unsold. The actual number of beef cattle sold at the Washington Drove Yard, during the year 1849, is ascertained to have been 71,183, or an average of 1,300 per week.

Cows and Calves.—The supplies were to an ordinary extent, with a fair demand. Sales at from $20 @ $42.50. All sold.

Sheep and Lambs.—Market active. Sales of Sheep at prices ranging from $1.75 @ $5.50, as in quality; Lambs from $1.50 @ $3.25. 200 left over.

REMARKS.—A slight advance in Cotton, Flour, Hay, and Seeds, since our last.

The weather.—Notwithstanding prophecies to the contrary, with the exception of a few days in December, the weather, thus far, has been rather mild than otherwise, for winter.

TO CORRESPONDENTS.—Communications have been received from N. Longworth, R., F., L. Durand, J. B. D., T. B. Miner, C. S. W., and H. M. Baker.

ACKNOWLEDGEMENTS.—From Mr. John Wiley, late of the firm of Wiley and Putnam, A Treatise on the Production of Early Swarms of Bees by Artificial means, by Edward Scudmore, M.D., of Canterbury, England; From Messrs. J. P. Jewett & Co., of Boston, The American Fowl Breeder; Address delivered before the Norfolk Agricultural Society, at Dedham, Mass., in September, 1849, by Hon. M P. Wilder; Address delivered before the New-Haven-County Horticultural Society, in September, 1849, by S. B. Parsons; Address delivered before the Philadelphia Society for Promoting Agriculture, in October, 1849, by Hon. J. R. Ingersoll; Address delivered before the Kalamazoo-County Agricultural Society, in October, 1849, by Joseph R. Williams; Address delivered before the Ontario-County Agricultural Society, in October, 1849, by Thomas D. Burrall, Esq.

THE

AMERICAN POULTRY YARD;

COMPRISING THE

ORIGIN, HISTORY, AND DESCRIPTION OF THE DIFFERENT BREEDS

OF

DOMESTIC POULTRY;

WITH

Complete Directions for their Breeding, Crossing, Rearing, Fattening, and Preparation for Market; including Specific Directions for Caponising Fowls, and for the Treatment of the Principal Diseases to which they are subject; drawn from Authentic Sources and Personal Observation; Illustrated by Numerous Engravings. By D. J. BROWNE, Author of the Sylva Americana. With an Appendix, embracing the Comparative Merits of Different Breeds of Fowls, by SAMUEL ALLEN. Price $1, in cloth—75 cts. with paper covers.

C. M. SAXTON,
feb 121 Fulton st., N. Y.

SHORTHORN BULLS.—For sale, two Shorthorn Bulls, one year old in April next. Both of them are descended from the bull Yorkshireman, bred by the late Thomas Bates, of England. One of the bulls is red, the other red with a little white. All letters, *post paid*, will be attended to.

J. M. SHERWOOD,
Auburn, N. Y., January 11th, 1850. feb 2t*

BAGLEY'S GOLD PENS.—The Subscribers would very respectfully call the attention of dealers in their *wares*, that they have on hand a superior article of "Bagley's Improved Gold Pens," with their new style of patent holders, together with all styles of Gold and Silver Pen and Pencil Cases, of beautiful patterns, suitable for the holidays, at their warehouse, (old stand,) 189 Broadway.

jan 3t* A. G. BAGLEY & Co.

TEXAS FARM FOR SALE.—A fine farm of 150 acres, with a desirable house on it, together with the furniture, farming utensils, stock, and a seine attached to a good fishery, for sale. The location is healthy, and within one and a half miles of Port Lavaca. Terms moderate, and title indisputable.

Apply to A. H. COOKE, Port Lavaca, Texas, or to EDWARD TROYE, Mobile, Alabama. feb

BOLLINGBROOK HOTEL, Petersburg, Virginia. Farmers visiting this part of Virginia for the purpose of examining the lands which are for sale, will gain all information from the proprietor of this hotel, or from Mr. Samuel Griscom. Lands can be purchased near Petersburg from $3 to $10 per acre.

feb J. S. MOODY, Proprietor.

STATIONERY, Blank Books, and Paper. FRANCIS & LOUTREL, No. 77 Maiden Lane, N. Y., Manufacture all kinds of Blank Books and Stationery articles—Diamond-Point Gold Pens—Letter Copying Presses—Manifold Letter Writers—superior Croton Ink, warranted to retain its jet-black color, which they sell at the very lowest prices.

We have also on hand every description of Foreign Paper and STATIONERY—Cap, Letter, and Note Papers, Envelopes, Perforated Board, Bristol Board, Drawing Papers—Copy Books, Pocket Books, Card Cases, Port Folios, Scrap Books—Gold Paper, Tissue Paper—Chess Men, Backgammon Boards—Wax, Wafers, Slates, Pencils—Gold and Silver Pencil Cases—Writing Desks—Work Boxes—Quills—Tin, Cash and Deed Boxes—and all articles kept by Stationers, at remarkably low prices.

Books suitable for County Clerks and Public Offices supplied.

Printing, Ruling, and Binding executed at the lowest rates.

☞ We should be pleased to have a call from those requiring articles in our line. Orders by mail will receive attention.

DIARIES AND DAILY JOURNALS, published annually, from the small pocket to the folio size, suitable for business, professional, and private use.

MANIFOLD LETTER WRITERS, by which a letter and copy are written at the same time; a great saving of time, &c. Price, $1, $2, $3.50, and $5 each.

LEWIS FRANCIS, } FRANCIS & LOUTREL,
CYRUS H. LOUTREL. } *Stationers, 77 Maiden Lane, N. Y.*
sep 1yr*

A VALUABLE FARM AT AUCTION.—The place on which I reside, (if not before sold,) will be disposed of to the highest bidder, at 10 o'clock A. M., on the 7th of March next, on the premises, on Raritan Bay, South-Amboy Township, Middlesex county, N. J., together with all the Stock, Farming Implements of the best sort, and the Household Furniture, substantial and ornamental.

The sale will be peremptory, and on the most easy and accommodating terms.

The farm is beautifully situated, in a very high state of cultivation, and the improvements are of the most substantial and useful character. There is fine fishing, shooting, and sailing, on an extensive bay in sight of the ocean.

The farm can be seen at any time, and can be approached through South Amboy, or Middletown Pt., from both which places it is equi-distant. Apply to

JOHN TRAVERS, on the premises,
or REID & CRAIG, at Middletown Point, N. J. jan 4t

MINER'S PATENT EQUILATERAL BEE-Hive.—This highly valuable hive may be had for $5, with a right to make the same, of Messrs. A. B. Allen & Co., 191 Water st., N. Y., who are my Agents. In proof of the great merit of this hive, I would state that I had a swarm of bees placed in one of the above hives about the first of last July, and some *forty* pounds of honey were stored in the supers, while *thirteen* other hives adjoining did not produce that quantity in the aggregate! Rights in pamphlet forms, with full engravings of all its parts, and ample directions to make said hives and manage bees therein, will be sold for $2 on addressing the undersigned, by mail, at "Clinton, Oneida county, N. Y." Moneys sent at my risk, and the safe delivery of rights guaranteed. Agents wanted to make and sell hives and rights in any section of the country.—Terms liberal, address as above.

MINER'S AMERICAN BEE-KEEPER'S MANUAL, 350 pages, 35 fine engravings—Price $1. For sale at all the principal Bookstores in the United States. Published by C. M. SAXTON, 121 Fulton street, New York. dec tf T. B. MINER.

WEBSTER'S DICTIONARY of the English Language, Exhibiting the Origin, Orthography, Pronunciation, and Definition of Words, &c., in one handsome volume, of nearly fourteen hundred pages. Sheep extra. Price $3.50. Thoroughly revised and considerably enlarged. By Prof. CHAUNCEY A. GOODRICH, of Yale College; assisted by a number of gentlemen distinguished for their high attainments in the various departments of learning, whose names will be found in the preface.

The entire work has been re-stereotyped, and is now beautifully printed upon a new set of plates.

Several thousand additional words have been incorporated in this edition, embracing *all the terms given in the new edition in the quarto form.*

The *Synopsis* and *Walker's Key* to the classical pronunciation of Greek, Latin, and Scriptural proper names have been revised with much care, and greatly improved.

A *Vocabulary*, giving the pronunciation of modern geographical names has been added to this edition.

feb 1t* HARPER & BROTHERS, 82 Cliff st., N. Y.

COOKING RANGES AND STOVES, Parlor Grates, &c., furnished at order at the following rates:—*Newly-Improved Patent Cooking Ranges*, at $30, $35, $40, and $48 each. Utensils and fixtures extra, varying from $15 to $100 each range. *Cooking Stoves*, at $16, $20, $24, $18, $23, $26, and $30 each, including utensils. *Parlor and Cottage Stoves*, at $5, $6, $7, $8, $10, $12, and $15 each, adapted for burning wood or coal.

D. J. BROWNE,
At the Agricultural Warehouse of A. B. Allen & Co.,
jan 2t* 189 Water street, N. Y.

COMMERCIAL GARDEN AND NURSERY. PARSONS & CO., at Flushing, near New York. The proprietors of this establishment invite public attention to their large assortment of every desirable variety of Fruit and Ornamental Tree or Shrub. Their importations of everything new in Europe are annually continued, and they offer a very large variety of Ornamental Trees and Shrubs imported expressly for arboretums and pleasure grounds. Their collection of Roses is annually enriched by novelties from abroad, many of which may be found described in their new work on the Rose, recently published. Fruit Trees receive their particular attention, and are propagated under their personal supervision. This care, with their possession of extensive specimen grounds, in which is tested every variety of fruit they cultivate, enables them confidently to guarantee the genuineness of the varieties.

Their care in pruning and cultivation enables them also to send out thrifty and well-formed trees. From their large scale of propagation, they can offer to dealers very liberal discounts, where hundreds or thousands are taken. Orders or inquiries can be addressed to the proprietors at Flushing, near New York, where catalogues will also be furnished. They have established a Branch at Brighton Depôt, near Boston, which, by the entire success of their trees transplanted thither, has thoroughly proved the superior adaptation of Long-Island Trees to the soil and climate of any part of New England. This they attribute to the perfect maturity attained by the wood before frost, which renders the trees suitable for transportation to any latitude.

At the season of transplanting, a salesman will be at their Brighton Branch to furnish those who may prefer obtaining their supply thence. mhtf

LOUISVILLE, KY., SEED AND AGRICULtural Store.—The subscriber offers for sale—

1,000	Bushels of	Kentucky	Blue Grass Seed,
600	do	do	Red Top do
200	do	do	Orchard Grass Seed,
200	do	do	Hemp Seed,
200	do	Prime	Timothy Seed,
500	do	do	Clover Seed,
100	do	do	Millet Seed,
100	do	do	Buckwheat Seed.

Also, Lucern and White Clover.

30,000 papers of fresh Garden Seeds; and all varieties of garden seeds by the pound.

50,000 Fruit trees, consisting of Apple, Peach, Pear, Cherry, and Quince; also, Grape Vines, Asparagus and Strawberry Roots, &c., &c., from the nurseries of L. Young, James Orr, H. P. Byram & Co., and G. G. Hikes of this vicinity. He also keeps every variety of Agricultural and Horticultural Implements, together with Lime, Plaster, and Guano; and will be happy to fill orders, (accompanied with cash or satisfactory reference,) from all parts of the United States.

feb 2t A. G. MUNN.

SELLING OFF TO CLOSE THE BUSINESS. Linnæan Botanic Garden and Nursery, late of WILLIAM PRINCE, deceased, Flushing, L. I., near New York, **Winter & Co.,** Proprietors.

In consequence of the decease of the junior, and of the advanced age of the surviving partner, the entire stock of this establishment, comprising every description, and including the newest and choicest varieties, of Fruit and Ornamental Trees, Shrubs, Vines, Plants, Roses, &c., will be disposed of *for cash*, at a reduction of 25 to 50 per cent. from the usual prices, according to kind and quantity. Young stocks, Ornamental Shrubs, Pœonies, Herbaceous Plants, &c., very low by the quantity.

Descriptive Catalogues *gratis* on application *post paid.*

feb 1t WINTER & CO.

SURVEYING AND ENGINEERING Instruments, furnished at order from the best manufacturers and importers. *Surveyors' Compasses*, at $15, $25, $30, $45, $50, $75, each, including Tripods or Jacob Staves. *Theodolites*, at $75, $80, $100, $125, $150, $200, each. *Levelling Instruments*, at $75, $80, $100, 125, each, including Tripods. *Levelling Rods*, $10, $20, each. *Drawing Instruments*, at $10, $15, $20, $25, $50, a case. *Gunter's Scales*, at 50 cts. or $1 each. *Ivory* or *Metallic Scales*, from $1 to $3 each. *Gunter's Chains* from $3 to $5 each. *Hundred-Foot Chains* from $5 to $10 each. *Tape Lines* from $1 to $5 each; *Pocket Compasses*, $3, $4, $5, $10 each.

D. J. BROWNE,
At the Agricultural Warehouse of A. B. Allen & Co.,
feb* 189 Water street, N. Y.

NEW and Enlarged Edition of Allen's
American Farm Book, $1.
Allen's Domestic Animals, 75 *cents.*
Miner's American Bee Keeper's Manual, $1.
Hoare on the Grape Vine, 50 *cents.*
Allen on the Grape, $1.12. Mail Edition, $1.
American Farmer's Cyclopedia, $4.
Colman's European Agriculture, 2 vols., $5.
Cole's American Fruit Book, 50 *cents.*
For sale by C. M. SAXTON, 121 Fulton st.

POTATOES.—A new and superior variety for winter use, which have always escaped the rot.
feb A. B. ALLEN & CO., 189 and 191 Water st., N. Y.

SILK WORMS' EGGS.—A few ounces of the *best peanut* varieties, on consignment, for sale at $5 per ounce by
feb A. B. ALLEN & CO.

AMERICAN GARDEN SEEDS, of all kinds, selected with care from last year's growth, at wholesale and retail by
A. B. ALLEN & CO.,
feb 189 and 191 Water street.

PUMPS.—A new article, not liable to freeze in the coldest weather, with revolving swivel, to work either right or left hand.
Also, every variety of cistern, well, lift and force pumps, at manufacturers' prices. feb A. B. ALLEN & CO.

INDESTRUCTIBLE CEMENT WATER Pipe, from one to 24 inches diameter, made with an iron tube, lined and covered with imperishable cement, which delivers the water free from any metallic taint, and just as received from the fountain. feb A. B. ALLEN & CO.

FOREIGN SEEDS, of superior quality and late importation.
GRASS SEEDS.—Ray Grass, Lucern, and White Dutch Clover Seeds.
BIRD SEED.—Canary, Hemp, Millet, and Rape Seeds.
GARDEN SEEDS.—A large stock selected with care.
feb A. B. ALLEN & CO., 189 and 191 Water st.

EAGLE PLOWS.—Many Plows having been sold under the name of the *Eagle Plow*, which are not genuine, this is to give notice that all plows sold in this city under that name, to ensure confidence, will have "Ruggles, Nourse, & Mason, Boston and Worcester, Mass.," and "A. B. Allen & Co., New York," marked on the beam, and no others purchased here, can be relied on as genuine without this brand.
☞ Be *particular*, also, as to the *name*, *number*, and *street*, which should be
A. B. ALLEN & CO., 189 and 191 Water st., N. Y.

ROCK SALT.—This Salt is as hard as alum, and is the best known. It comes in large lumps, and is the most *suitable and economical* kind for stock. It may be placed on the ground in the open field where it will be exposed for years to the weather with but little waste. It is the best kind to put in a rack, manger, or trough, to be licked by horses, cattle, and sheep, as they may desire. By this means, stock never get an excess, nor suffer injury from its use. Price $1 per hundred pounds, for a single barrel.
jan A. B. ALLEN & CO., 189 and 191 Water st., N. Y.

CAUTION.—As certain houses in this city are in the habit of selling Agricultural and Horticultural Implements, and Field and Garden Seeds, representing them as coming from our establishment, the public is cautioned to be on its guard against imposition. All implements and parcels sold by us, which it is possible to mark, will be found branded "A. B. Allen & Co., 189 and 191 Water street, New York."
When designing to call at our warehouse, please to be careful and look for the right numbers as above, otherwise impositions may be practised upon the unwary.
jan A. B. ALLEN & CO., 189 and 191 Water st., N. Y.

GUANO AND OTHER FERTILISERS, constantly on hand and for sale on reasonable terms.
GUANO—Peruvian and Patagonian, best quality.
BONE DUST—of superior quality, in barrels. Those in want will do well to secure it soon.
PLASTER.—Ground Plaster, in barrels.
POUDRETTE—at manufacturers' prices.
COMBINED MANURE.—This is a valuable artificial manure, containing a considerable per centage of phosphate of lime, ammonia, and nitrogen, capable of affording ammonia by slow decomposition in the soil. On application to crops, it is immediately felt, and its effects continue for three or four years. Price, put up in barrels, $1 per 100 lbs. A. B. ALLEN & CO.,
feb 189 and 191 Water street.

SUGAR MILLS FOR GRINDING CANE.—These are furnished of all sizes, to work by horse or steam power. They are made with two or three rollers, and to work horizontally or vertically for horse power; and with three horizontal rollers of larger dimensions for steam or water power. Great improvements have recently been made in the construction of these mills, both in economising power and the cane juice. Fifty per cent. is near the average of juice heretofore expressed from the cane, leaving about forty per cent. in the bagasse. Machines are now constructed by which 75 to 80 per cent. of juice is extracted.
Price of horse-power mills, with two vertical rollers, with geering, brass boxes, and heavy, wrought shafts, $120 to $200. Horizontal mills, with three rollers, for steam or water power, $250 to $2,500. Address A. B. ALLEN & CO.,
feb 189 and 191 Water st., New York.

AMERICAN FIELD SEEDS, of the latest growth.
GRASS SEEDS.—Timothy, Herd's Grass, (Red Top,) Blue Grass, and Clover (Red and White).
OATS.—Imperial, Hopetown, and Black Oats.
SPRING WHEAT.—Italian and Black-Sea Spring Wheat.
feb A. B. ALLEN & CO., 189 and 191 Water st.

GREAT SALE OF SHORTHORNS.—Mr. SHEAFE, of Dutchess Co., N. Y. will offer his superior stock of Shorthorn Cattle at public sale, in June next. This is one of the finest and best-bred herds in the United States. The cows greatly excel as milkers, especial pains having always been taken to select and perpetuate this important point in breeding. The cows will probably all be in calf by the superb bull Exeter, imported last year, from Mr. Stephenson, of Durham, England. Mr. Stephenson's stock is of the Princess tribe of Shorthorns, which take the same rank in England as Mr. Bates' celebrated Duchess tribe. For further particulars address
A. B. ALLEN, New York.

FARM IN DUTCHESS COUNTY.—The farm of J. F. Sheafe, Esq., situated near New Hamburg, Dutchess county, seventy miles from New York, is now offered for sale. It contains about 160 acres of an excellent quality of soil, in first-rate condition, and an extensive and complete set of farm buildings. The whole will be sold together, or divided into lots to suit purchasers.
This farm can be reached in three hours from New York, by the Hudson-River Railroad. The depôt at New Hamburg is only one mile distant.
Gentlemen wishing to possess a first-rate farm, under a high state of cultivation, or to obtain beautiful sites for country residences, will find this one of the most desirable locations on the Hudson. The ground is elevated, and commands varied and delightful views of the river, the highlands, and adjacent villages and country. The location is healthy, the roads uncommonly fine, and good schools and churches in the immediate neighborhood. For further particulars, address A. B. ALLEN,
jan 189 Water st.

ALLEN'S IMPROVED PORTABLE RAILROAD HORSE POWER AND OVERSHOT THRESHER AND SEPARATOR.—The advantages of the above horse powers are—1. They occupy but little more space than a single horse. 2. They can be moved by the weight of the horse only, by placing them at an angle of 10 or 15 degrees. 3. They are comparatively light and portable, and can be easily transported. 4. They are simply constructed, not liable to get out of order, and move with little friction, the revolving plane gearing without any complex or intermediate wheels, directly into the pinion upon the shaft on which the pully belt runs.

Price of single Power,	$80
" " Thresher,	$28
" Separator and fixtures,	$7
" Bands for driving, etc.,	$5
" Wood-sawing machine, complete, and in running order,	$35

The price of the double power, thresher, separator, &c., complete, is $145, including right of using. The above are sold singly or together, as desired.
These machines are warranted to work well and give satisfaction. A. B. ALLEN & CO.,
jan 189 and 191 Water street.

PLOWS.—A very large Assortment of more than one hundred different patterns.
HARROWS.—Triangular, folding, and square; single and double harrows.
SEED PLANTERS.—A good and simple machine. They open the drills—sow seeds of various sizes, at any distance apart—then cover the seed, and press the soil over it.
CULTIVATORS—of at least a dozen of the most approved kinds.
CORN SHELLERS—of various kinds, both for horse and hand power. They will shell from 150 to 1,200 bushels per day, dependent on the size of the machine.
FANNING MILLS.—Allen's, Grant's, Bryan's, and various other manufacturers'.
MOTT'S BOILERS.—A boiler setting into an iron case over a furnace, so that the inside boiler is surrounded by fire and no heat lost. This is an excellent arrangement for boiling food for stock. It can be used in-doors or out.
FOLDING LADDERS—a new article, very light and convenient.
WATER RAMS—of various sizes, for raising water.
HORTICULTURAL TOOLS.—A very large and complete assortment.
GRINDSTONES—on frames with friction rollers.
GARDEN AND FIELD ROLLERS—made of cast-iron sections, a foot in diameter.
PUMPS.—Chain, Force, and Iron and Wood Suction Pumps.
SAUSAGE CUTTERS.—A new and valuable article for the use of grocers, butchers, hotels, and families. A boy can cut several hundred pounds of meat per day in this machine.—Price $5 to $10.
SAUSAGE STUFFERS.—With one of these, a person can put up more sausages than twenty can do without it.
HORSE-RADISH GRATING MACHINE, with single and double cylinders, to work by treaddle power. A convenient article for market men and hotel keepers.
jan A. B. ALLEN & CO., 189 and 191 Water st.